

Appendix H.
Biological Resources

Vegetation

Table 1 displays a list of the sensitive plants that may occur on the refuges in the Desert National Wildlife Refuge Complex (Desert Complex). The table identifies the federal status (U.S. Fish and Wildlife Service [Service] and U.S. Bureau of Land Management [BLM]) and Nevada state status, if any. Species accounts for the federally listed species and some of the sensitive species are provided, in alphabetical order by common name, following the table.

Table 1. Sensitive Plant Species That May Occur at the Desert National Wildlife Refuge Complex

Common Name	Scientific Name	Status ¹				Refuge ²		
		FWS	NV	BLM	AHME	DEST	MOVA	PAHR
White bearpoppy	<i>Arctomecon merriamii</i>	NS	-	N	x	x		
Meadow Valley sandwort	<i>Arenaria stenomeris</i>	NS	-	-		x		
Ackerman milkvetch	<i>Astragalus ackermanii</i>	NS	-	-		x		
Sheep Mountain milkvetch	<i>Asrtragalus amphioxys</i> var. <i>musimonum</i>	NS	-	N		x		
Black woolly-pod	<i>Astragalus funereus</i>	NS	-	N		x		
Halfring milkvetch	<i>Astragalus mohavensis</i> var. <i>hemigyris</i>	NS	CE	S		x		
Nye milkvetch	<i>Astragalus nyensis</i>	NS	-	-				x
Ash Meadows milkvetch ³	<i>Astragalus phoenix</i>	T	CE	S	x			
Alkali mariposa lily	<i>Calochortus striatus</i>	NS	-	N	x			
Spring-loving centaury ³	<i>Centaurium</i> <i>namophilum</i>	T	CE	S	x			
Remote rabbitbush	<i>Chrysothamnus</i> <i>eremobius</i>	NS	-	N		x		
Virgin River thistle	<i>Cirsium virginense</i>	NS	-	-				x
Tecopa birdsbeak ³	<i>Cordylanthus tecopensis</i>	NS	-	N	x			
Ash Meadows sunray ³	<i>Enceliopsis nudicaulis</i> var. <i>corrugata</i>	T	CE	S	x			
Antelope Canyon goldenbush	<i>Ericameria cervina</i>	NS	-	-		x		
Charleston goldenbush	<i>Ericameria compacta</i>	NS	-	-		x		
Sheep fleabane	<i>Erigeron ovinus</i>	NS	-	N		x		
Darin buckwheat	<i>Eriogonum concinnum</i>	NS	-	-	x			
Clokey buckwheat	<i>Eriogonum heermanii</i> var. <i>clokeyi</i>	NS	-	N		x		
Smooth dwarf greasebush	<i>Glossopetalon pungens</i> var. <i>glabrum</i>	NS	-	N		x		
Rough dwarf greasebush	<i>Glossopetalon pungens</i> var. <i>pungens</i>	NS	-	N		x		
Ash Meadows gumplant ³	<i>Grindelia fraxino-</i> <i>pratensis</i>	T	CE	S	x			
Ash Meadows ivesia ³	<i>Ivesia kingii</i> var. <i>eremica</i>	T	CE	S	x			
Ash Meadows blazing star ³	<i>Mentzelia leucophylla</i>	T	CE	S	x			
Amargosa niterwort ³	<i>Nitrophila mohavensis</i>	E	CE	S	x			
Rosy twotone beardtongue	<i>Penstemon bicolor</i> ssp. <i>roseus</i>	NS	-	N		x		

Table 1. Sensitive Plant Species That May Occur at the Desert National Wildlife Refuge Complex

Common Name	Scientific Name	FWS	Status ¹				Refuge ²		
			NV	BLM	AHME	DEST	MOVA	PAHR	
Jaeger beardtongue	<i>Penstemon thompsoniae</i> ssp. <i>jaegeri</i>	NS	-	-			X		
Clarke phacelia	<i>Phacelia filiae</i>	NS	-	N			X		
Parish's phacelia	<i>Phacelia parishii</i>	NS	-	N	X		X		
Pygmy poreleaf	<i>Porophyllum pygmaeum</i>	NS	-	N			X		
Clokey mountain sage	<i>Salvia dorrii</i> var. <i>clokeyi</i>	NS	-	N			X		
Death Valley sage	<i>Salvia funerea</i>	NS	-	-	X				
Death Valley blue-eyed grass	<i>Sisyrinchium funereum</i>	NS	-	-	X				
Ash Meadows lady's tresses ³	<i>Spiranthes infernalis</i>	NS	-	-	X				
Charleston grounddaisy	<i>Townsendia jonesii</i> var. <i>tumulosa</i>	NS	-	N			X		

¹Status: E = Endangered

T = Threatened

NS = No Status; these species were previously considered species of concern

CE = Critically endangered

CE# = Proposed as critically endangered

N = Nevada special status species

S = Federally protected and/or protected by Nevada state law

²Refuges: AHME- Ash Meadows NWR; DEST- Desert NWR; MOVA- Moapa Valley NWR; PAHR- Pahrangat NWR

³Endemic to Refuge

Sources: Service 2006b; NNHP 2005; Otis Bay and Stevens Ecological Consulting 2006

Sensitive Species Accounts

Alkali mariposa lily (*Calochortus striatus*) is a member of the lily family (Liliaceae) (Morefield 2001). It is a perennial herb with an underground bulb and a height of 4 to 20 inches. This species has a subumbellate inflorescence with white to pale lavender flowers with a purple stripe. Preferred habitat includes moist alkaline meadows near springs in creosote bush scrub. This plant's elevation range is from 2,100 to 3,700 feet above mean sea level (msl). It is known to occur in a 13.2-mile range in Nevada and also occurs in portions of California.

Amargosa niterwort (*Nitrophila mohavensis*) is a member of the goosefoot family (Chenopodiaceae) and is a long-lived, herbaceous plant (Service 1985). It reaches a maximum height of about 3 inches and has small, bright green leaves and inconspicuous flowers. The Amargosa niterwort is found on salt-encrusted alkaline flats at the south end of Carson Slough and below Crystal Reservoir on the Ash Meadows National Wildlife Refuge (NWR). These flats are saline and alkaline sinks that occur near the terminuses of seepage from springs that are found in Ash Meadows, many miles to the north and east of Carson Slough. The niterwort's elevation range is from 2,100 to 2,160 feet above msl. This niterwort species was federally listed as endangered with associated critical habitat on May 20, 1985 (50 FR 20777). Critical habitat was designated in Inyo County, California, in Sections 5, 6, 7, and 8 of Township 25 North, Range 6 East. This designation includes 1,200 acres of salt-encrusted alkaline flats. An additional 1,360 acres were also proposed at the time of the original designation, and they were expected to be added in the near future. No final designation has been made on the additional

critical habitat. Threats to this species include off-road vehicles, mining, and groundwater depletion that has the potential to affect spring flow, which could dry up the plant's extremely restricted habitat.

Ash Meadows blazing star (*Mentzelia leucophylla*) is a member of the loasa family (Loasaceae) (Service 1985). It is a biennial or short-lived perennial plant with white stems and light yellow flowers. The number of stems varies from one to several, and they reach a height of about 20 inches. The flowers grow in broad inflorescences. This plant is endemic to Nevada and grows on upland alkaline soils found in arroyos and on knolls at an elevation range of 2,200 to 6,500 feet above msl. Ash Meadows blazing star is often associated with Ash Meadows milkvetch and Ash Meadows sunray. This blazing star species was listed as threatened with associated critical habitat on May 20, 1985 (50 FR 20777). Critical habitat was designated in four areas within Ash Meadows. This designation includes 1,240 acres of preferred habitat, which includes sandy or saline clay soils along canyon washes and on alkaline mounds in the more xeric portion of Ash Meadows. Historic populations (more than 30 years ago) have been greatly reduced due to habitat disturbance from road construction and peat mining in Carson Slough. Current threats include alteration of storm drainage patterns through arroyos, and habitat destruction in locations of proposed roads.

Ash Meadows gumplant (*Grindelia fraxino-pratensis*) is a member of the aster family (Service 1985). It is an erect biennial or perennial plant that averages 35 inches high. It has yellow flowers in heads measuring less than 0.5 inches across. This gumplant is not restricted to a specific habitat, but it primarily occurs in saltgrass meadows along streams and pools at elevations between 2,100 and 2,300 feet above msl. Other suitable habitat includes alkali clay soils in drier areas and other riparian areas where soil moisture is maintained by perched groundwater. This gumplant species was listed as threatened with associated critical habitat on May 20, 1985 (50 FR 20777). Critical habitat was designated in 14 areas within Ash Meadows in Inyo County, California, and Nye County, Nevada. This designation includes 1,968 acres of suitable habitat. An additional 40 acres of habitat in Inyo County were also proposed, but a final designation has not been made. Suitable habitat has been dramatically reduced by water diversion into pipes and concrete ditches, agricultural development, and groundwater depletion (Service 1985). Other threats to this species include mining of clay, road construction, and loss of moist habitat due to a decline in spring discharge that occurred during historical agricultural groundwater withdrawals.

Ash Meadows ivesia (*Ivesia eremica*) is a member of the rose family (Rosaceae) (Service 1985). It is a perennial plant with inflorescences and leaf tufts emerging from a woody root crown. There are only a few flowers, with 0.3-inch-long petals, on each inflorescence. This species is limited to specific soils, including light-colored clay uplands and saline seep areas at an elevation range of 2,190 to 2,300 feet above msl. Ash Meadows ivesia is endemic to Nevada. This ivesia species was listed as threatened with associated critical habitat on May 20, 1985 (50 FR 20777). Critical habitat was designated in six areas within Ash Meadows. This designation includes 880 acres of saline seep areas of light-colored clay uplands. Reasons for the decline of this species in the past have included loss of habitat due to road construction and agricultural development, including cropland development, spring alteration, and stream channelization and diversion (Service 1985). The main threat to the continued existence of this species is groundwater depletion, which can dry up ivesia habitat by decreasing spring discharge.

Ash Meadows lady's tresses (*Spiranthes infernalis*) is a member of the orchid family (Orchidaceae) (Morefield 2001). It is a tuberous perennial herb with small flowers that bloom in late spring or early summer. The flowers are yellowish-white with green at the base. This species closely resembles other species in the genus *Spiranthes*. It is limited to permanently to seasonally wet alkaline meadows and is often found near the edges of spring outflows. Associated vegetation includes creosote bush, bursage, and shadscale. The plant's elevation range is from 2,190 to 2,340 feet above msl. In Nevada, this species

is dependent on aquatic and wetland habitats, and its total population size is estimated at 1,107 individuals over 28.2 acres. It is endemic to Ash Meadows and is threatened by orchid collectors.

Ash Meadows milkvetch (*Astragalus phoenix*) is a member of the pea family (Fabaceae/ Leguminosae) (Service 1985). It is a low-matted perennial plant with pink or purple flowers on short, erect stems. The mat forms a 15- to 20-inch-wide mound, and the flowers are about one inch long. This milkvetch species was federally listed as threatened with associated critical habitat on May 20, 1985 (50 FR 20777). Critical habitat was designated in nine locations within Ash Meadows, Nye County, Nevada. This designation includes 1,200 acres of dry, hard, white, barren saline, clay flats, knolls, and slopes, which is the only suitable habitat for this plant. Its elevation range is from 2,200 to 2,380 feet above msl. Ash Meadows milkvetch is endemic to Nevada and grows in small, widely scattered populations throughout the eastern portion of the Ash Meadows NWR. The greatest decline in this species' population occurred between 1970 and 1985 due to loss of suitable habitat by farming activities. Other specific threats to the Ash Meadows milkvetch have included alterations of storm drainage patterns by road construction activities, mining on lands occupied by populations not located within Ash Meadows NWR, and elimination of individual plants during planned road construction.

Ash Meadows sunray (*Enceliopsis nudicaulis* var. *corrugata*) is a member of the aster family (Asteraceae/Compositae) (Service 1985). It is a perennial plant that grows in clumps averaging 10 inches high. The yellow flowers are borne singly on a leafless stalk and are one to 1.5 inches across. Preferred habitat is dry washes with whitish saline soil associated with outcrops of pale, hard limestone. The plant's elevation range is 2,200 to 2,360 feet above msl. This sunray species was listed as threatened with associated critical habitat on May 20, 1985 (50 FR 20777). Critical habitat was designated in nine areas within Ash Meadows. This designation includes 1,760 acres of dry washes and whitish, saline soil associated with outcrops of a pale whitish limestone. Ash Meadows sunray is a more common, endemic plant of Ash Meadows, but its population was dramatically reduced between 1970 and 1985 due to habitat loss from agricultural production, initial phases of development, and road construction. Current threats include off-road vehicles and road construction.

Death Valley sage (*Salvia funerea*) is a member of the mint family (Lamiaceae) (Morefield 2001). It is a shrub that flowers in the spring. Preferred habitat includes dry limestone cliffs, crevices, and adjacent wash gravels at an elevation range of 2,600 to 3,500 feet above msl. It typically grows in deep, sheltered canyons or on north-facing exposures, and nearby vegetation usually consists of shadscale and creosote bush. Four occurrences of this species have been mapped in Nye County, but the overall population size and range are unknown. This species also occurs in portions of California.

Parish's phacelia (*Phacelia parishii*) is a member of the waterleaf family (Hydrophyllaceae) (Morefield 2001). It is a small annual that flowers in late spring. This species grows in sparsely vegetated alkaline flats at an elevation range of 2,200 to 6,000 feet msl. Suitable habitat conditions include moist to superficially dry soils, mostly barren soils, and salt-crusts on silty-clay soils on valley bottom flats, lake deposits, and playa edges. It is often found near seepage areas and sometimes found on gypsum deposits. The dominant nearby habitat type is saltbush scrub. In Nevada, this species is dependent on wetland and aquatic habitats, and its estimated total population size is 37 million individuals over 4,600 acres. Although the population is fairly large, it is declining from historic estimates.

Nye milkvetch (*Astragalus nyensis*) is a member of the legume family (Morefield 2001). It is an annual herb that occurs at elevations between 1,100 and 5,600 feet above msl. This herb flowers in the spring and has one to four white flowers with upper petals that are tinted a faint lilac color. This plant is found on foothills of desert mountains, in calcareous outwash fans and gravelly flats, and sometimes in sandy soil. It is associated with the desert upland community in the Mojave and Great Basin Deserts. Its total estimated population is 1,126 individuals. Nye milkvetch is found in Lincoln, Nye, and Clark counties.

Spring-loving centaury (*Centaurium namophilum*) is a member of the pea family (Service 1985). It is an erect, annual plant with pink flowers that grows to a height of about 18 inches. Preferred habitat consists of moist to wet clay soils along the banks of streams or in seepage areas at an elevation range of at 2,100 to 2,350 feet above msl. The spring-loving centaury is found in similar habitat as the Ash Meadows gumplant and is often associated with this plant. This centaury species was listed as threatened with associated critical habitat on May 20, 1985 (50 FR 20777). Critical habitat was designated in 11 areas within Ash Meadows. This designation includes 1,840 acres of suitable habitat. The spring-loving centaury was historically (more than 30 years ago) found in several areas outside of Ash Meadows. As of 1973, it was considered extirpated from those areas and is now an endemic plant of Ash Meadows (Reveal et al. 1973). Reasons for the decline of this species in the past included loss of riparian habitat due to groundwater depletion, water diversion, spring alteration, peat mining in Carson Slough, and land development for agriculture and municipal facilities (Service 1985). Current threats include groundwater depletion leading to decreases in spring discharge, road construction through riparian areas, and trampling and overgrazing by horses.

Tecopa birdsbeak (*Cordylanthus tecopensis*) is a member of the figwort family (Scrophulariaceae) (Morefield 2001). It is an annual terrestrial hemiparasite that flowers in summer or early fall. This plant grows in open, moist to saturated, alkali-crusted clay soils of seeps, springs, outflow drainages, and meadows. In Nevada, this species is dependent on wetland margin areas, and its total population size is estimated at 4,379 individuals over 11.1 acres in Ash Meadows and Fishlake Valley (Nye and Esmeralda counties). This species also occurs in portions of California. Its elevation range is from 2,100 to 4,900 feet above msl.

Virgin River thistle (*Cirsium virginense*) is a member of the sunflower family (Morefield 2001). It is a spiny perennial herb that ranges from 20 to 80 inches in height. The stems are covered in white, wooly hairs, and the small, pale purple flowers bloom in late summer (June to September). This plant is found on open, moist, alkaline clay soils in seep and spring areas or on gypsum knolls. It is dependent on aquatic or wetland habitat in Nevada. This species can be found in Clark County and has a range of about 17 miles. Its Nevada population is estimated at approximately 105 individuals.

White bearpoppy (*Arctomecon merriamii*) is a member of the poppy family (Papaveraceae) (Morefield 2001). It is a flowering dicot and evergreen, perennial herb that grows on a wide variety of dry to sometimes moist basic soils, including alkaline clay and sand, gypsum, calcareous alluvial gravels, and carbonate rock outcrops. This plant's elevation range is from 2,000 to 6,280 feet above msl. Its current distribution includes Clark, Lincoln, and Nye counties in Nevada and parts of California. Past surveys have estimated a total of more than 20,000 individuals over an area of about 1,000 acres, but the plant's overall population trend is declining.

Noxious Weeds

Table 2 provides a list of the noxious weeds that may occur at each of the refuges in the Desert Complex. Some of these species are known to occur on one or more of the refuges, while others have not yet been identified. A brief description and comments on the species' growing patterns are also provided. Camelthorn is a common weed along streams and ditches (BLM 1999). Puncturevine is widespread, but is most common on farm and range land. Yellow starthistle is common along roads and in waste areas, but it can be found on various soil types. Salt cedar infests riparian areas and can cause streams, springs, and seeps to dry up. Tall whitetop can be found in wet areas, ditches, along roads, on croplands, and in waste areas (Young et al. 2005). Russian knapweed is not limited to specific habitat types, but it is typically found in disturbed areas and tends to avoid healthy, natural habitats (Carpenter and Murray 1998).

Table 2. Noxious Weeds in Southern Nevada

<i>Common Name</i>	<i>Scientific Name</i>	<i>Habit/ Duration</i> ¹	<i>Description</i>	<i>Comments</i>
Russian knapweed	<i>Acroptilon repens</i>	H/P	1–3 ft tall; cone-shaped pink or bluish flowers	Forms dense colonies in riparian areas; deeply-rooted
Camelthorn	<i>Alhagi maurorum</i>	S/P	1.5-4 ft tall; small, pealike, purplish to maroon flowers	Forms dense stands; extensive system of rhizomes
Sahara mustard	<i>Brassica tournefortii</i>	H/A	0.5-3.5 ft tall; dull yellow racemes	Relies on rain for blooming; common on wind-blown sand deposits and disturbed areas
Hoary cress	<i>Cardaria draba</i>	H/P	1-1.5 ft tall; white flat-top cluster flowers	Forms taproot; resprouts from damaged roots
Spotted knapweed	<i>Centaurea maculosa</i>	H/B	0.5-4 ft tall; purple to pink flower heads	Forms taproot; prefers well-drained, light-textured soils
Malta starthistle	<i>Centaurea melitensis</i>	H/A or B	1–2 ft tall; small, tubular yellow flowers on flower head	Grows from a taproot; common in disturbed areas
Yellow starthistle	<i>Centaurea solstitialis</i>	H/A	Up to 3 ft tall; 1-inch long stiff spines around single yellow flower heads	Forms dense, impenetrable stands; can harm horses
Leafy spurge	<i>Euphorbia esula</i>	H/P	2-3.5 ft tall; small, greenish-yellow flowers with yellow bracts	Most aggressive in dry soils; uses plant toxins to out-compete natives
Tall whitetop	<i>Lepidium latifolium</i>	H/P	1-3 ft tall; dense, white flowers in inflorescences	Grows in disturbed and wet areas; deep-seated rootstocks
White horse-nettle	<i>Solanum elaeagnifolium</i>	H/P	1-4 ft tall; blue or violet flowers with bright yellow stamens	Poisonous to livestock; crowds out native plants
Sorghum	<i>Sorghum bicolor</i>	G/P	1.5-15 ft tall; tall, grass-like plant with inflorescence and thick leaves	Poisonous to livestock; crowds out native plants
Johnson grass	<i>Sorghum halepense</i>	G/P	3–7 ft tall; bright green, 2-foot-long leaf blades; many branched flowering tops	Forms colonies in moist areas; forms underground roots and rhizomes that greatly branch
Tamarisk	<i>Tamarix parviflora</i>	T/P	10–20 ft tall; myriad of little, deep pink to white flowers	Scattered stands near ground or surface water
Salt cedar	<i>Tamarix ramosissima</i>	T/P	10–15 ft tall; myriad of little, deep pink to white flowers	Scattered stands near ground or surface water
Puncture vine	<i>Tribulus terrestris</i>	H/A	1–8 ft long stems; low-growing; solitary, bright yellow flowers; burr-like fruit	Thrives in sandy and sandy loam soils and in disturbed areas

¹Habit: G = Graminoid (grass or grass-like plant)
H = Herb/Forb (non-woody, vascular plant)
S = Shrub (multi-stemmed, woody plant, less than 15-ft tall)
T = Tree (single-stemmed, woody plant, or multi-stemmed, more than 15-ft tall)

Duration: A = Annual
B = Biennial
P = Perennial

Sources: Service 2006a; Parker 1990; Thunhorst and Swearingen 1999; Carpinelli 2003

Wildlife

This section contains a list of management priority bird species and species accounts for game species occurring on the Desert NWR, federally listed or candidate wildlife species, and birds of conservation concern that potentially occur on the refuges in the Desert Complex. Species accounts are provided in alphabetical order by common name. Table 3 provides status information for the sensitive species and identifies which refuge they may occur at. Lists of common wildlife species are also provided for each of the refuges at the end of this appendix.

Management Priority Bird Species

A variety of bird conservation plans have been developed to identify management goals for various bird species throughout the U.S., Intermountain West, and Nevada, including the North American Landbird Conservation Plan (LCP, Rich et al. 2004), Intermountain West Waterbird Conservation Plan (IWWCP, Ivey and Herziger 2005), North American Waterfowl Management Plan (WMP, Service 1986), United States Shorebird Conservation Plan (SCP, Brown et al. 2001), North American Waterbird Conservation Plan (NAWCP, Kushlan et al. 2002), Nevada Bird Plan (NBP, Nevada Partners in Flight 1999), and Nevada Wildlife Action Plan (WAP, NDOW 2005). These plans identify management priority bird species at a variety of different geographic scales. Many of the priority bird species occur on the refuges in the Desert Complex or have potential to occur based on the presence of suitable habitat. A list of these species and their status in various conservation plans is provided in Table 4. Those species shown in bold type in this table are the highest priority for the Refuge Complex. These species include:

- All Partners in Flight (PIF) Contentional Plan Watch List species with population objectives of “increase by 50 or 100 percent”
- All PIF Contentional Plan Watch List Species corroborated by concerns in the Audubon Draft Watch List
- All waterbird species categorized as moderate or high concern in the National Colonial Waterbird Conservation Plan which are also listed as high concern species in the Waterbird Conservation Plan of the Intermountain West.
- All shorebird species categorized as highly imperiled in the US Shorebird Conservation Plan.
- All waterfowl species with a a State Rank (S-Rank) of 3 (vulnerable) or less.

Table 5 summarizes which species would likely benefit for proposed restoration and/or management actions at each refuge.

Table 3. Sensitive Wildlife Species That May Occur at the Desert National Wildlife Refuge Complex

Common Name	Scientific Name	FWS	Status ¹			Refuge ²			
			NV	BLM	AHME	DEST	MOVA	PAHR	
Amphibian									
Southwestern toad	<i>Bufo microscaphus</i>	NS	SCP	N		x		x	
Relict leopard frog	<i>Rana onca</i>	C	SCP	-					x
Northern leopard frog	<i>Rana pipiens</i>	-	SCP	N					x
Reptiles									
Desert tortoise	<i>Gopherus agassizii</i>	T	SCP	S	x	x			x
Banded Gila monster	<i>Heloderma suspectum cinctum</i>	NS	SCP	S	x	x		x	x
Chuckwalla	<i>Sauromalus ater</i>	NS	SCP	N	x	x		x	x
Birds									
Northern goshawk	<i>Accipiter gentilis</i>	NS	SCP	P			x		x
Golden eagle	<i>Aquila chrysaetos</i>	-	SCP	N	x				x
Short-eared owl	<i>Asio flammeus</i>	-	SCP	N					x
Western burrowing owl	<i>Athene cunicularia hypugea</i>	BCC	SCP	P	x	x		x	x
Ferruginous hawk	<i>Buteo regalis</i>	BCC	SCP	P	x	x			x
Black tern	<i>Chlidonias niger</i>	NS	SCP	N	x	x		x	x
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	BCC, C	SCP	P		x		x	x
Olive-sided flycatcher	<i>Contopus cooperi</i>	BCC	SCP	U	x	x		x	x
Yellow warbler	<i>Dendroica petechia</i>	BCC	SCP	P	x				x
Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	E	SCP	S	x			x	x
Gray flycatcher	<i>Empidonax wrightii</i>	BCC	SS	U	x	x		x	x
Peregrine falcon	<i>Falco peregrinus</i>	BCC	SCP	S	x	x			x
Common yellow throat	<i>Geothlypis trichas</i>	-	SCP	P	x				x
Blue grosbeak	<i>Guiraca caerulea</i>	NS	SS	U	x	x		x	x
Bald eagle	<i>Haliaeetus leucocephalus</i>	BCC	SCP	S	x	x			x
Least bittern	<i>Ixobrychus exilis hesperis</i>	NS	SCP	-	x	x		x	x
Osprey	<i>Pandion haliaetus</i>	-	SCP	P	x				x
American white pelican	<i>Pelecanus erythrorhynchos</i>	-	SCP	P	x				x
Phainopepla	<i>Phainopepla nitens</i>	NS	SCP	N	x	x		x	x
Summer tanager	<i>Piranga rubra</i>	NS	SS	U	x	x		x	x
White-faced ibis	<i>Plegadis chihi</i>	NS	SCP	P	x	x		x	x
Vermilion flycatcher	<i>Pyrocephalus rubinus</i>	-	-	-	x				
Yuma clapper rail	<i>Rallus longirostris yumanensis</i>	E	SCP	-	x			x	x

Table 3. Sensitive Wildlife Species That May Occur at the Desert National Wildlife Refuge Complex

Common Name	Scientific Name	FWS	Status ¹			Refuge ²			
			NV	BLM	AHME	DEST	MOVA	PAHR	
Birds, continued									
Lucy's warbler	<i>Vermivora luciae</i>	NS	SCP	U	x	x	x	x	x
Arizona Bell's vireo	<i>Vireo bellii arizonae</i>	BCC	SCP	P	x	x	x	x	x
Mammals									
Pygmy rabbit	<i>Brachylagus idahoensis</i>	NS	SCP	-					x
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	NS	SCP	N	x	x	x	x	x
Spotted bat	<i>Euderma maculatum</i>	NS	SCP	S	x	x	x	x	x
Greater western mastiff-bat	<i>Eumops perotis californicus</i>	NS	-	N	x	x	x	x	x
Allen's big-eared bat	<i>Idionycteris phyllotis</i>	NS	SCP	N	x	x	x	x	x
California leaf-nosed bat	<i>Macrotus californicus</i>	NS	SCP	N	x	x	x	x	x
Desert Valley kangaroo mouse	<i>Microdipodops megacephalus albiventer</i>	NS	SCP	-					x
Pahrnagat Valley montane vole	<i>Microtus montanus fucosus</i>	NS	SCP	N					x
Ash Meadows montane vole ^{3,4}	<i>Microtus montanus nevadensis</i>	NS	SCP	N	x				
Small-footed myotis	<i>Myotis ciliolabrum</i>	NS	SCP	N	x	x	x	x	x
Long-eared myotis	<i>Myotis evotis</i>	NS	SCP	N	x	x	x	x	x
Fringed myotis	<i>Myotis thysanodes</i>	NS	SCP	N	x	x	x	x	x
Cave myotis	<i>Myotis velifer</i>	NS	SCP	N	x	x	x	x	x
Long-legged myotis	<i>Myotis volans</i>	NS	-	N	x	x	x	x	x
Yuma myotis	<i>Myotis yumanensis</i>	NS	-	N	x	x	x	x	x
Big free-tailed bat	<i>Nyctinomops macrotis</i>	NS	SCP	N	x	x	x	x	x
Hidden Forest Uinta chipmunk	<i>Tamias umbrinus nevadensis</i>	NS	SCP	-		x			
Fish									
Moapa White River springfish ³	<i>Crenichthys baileyi moapae</i>	NS	SCP	-				x	
Devils Hole pupfish ³	<i>Cyprinodon diabolis</i>	E	SCP	S	x				
Ash Meadows Amargosa pupfish ³	<i>Cyprinodon nevadensis mionectes</i>	E	SCP	S	x				
Warm Springs Amargosa pupfish ³	<i>Cyprinodon nevadensis pectoralis</i>	E	SCP	S	x				
Pahrump poolfish	<i>Empetrichthys latos latos</i>	E	SCP	S		x			
Pahrnagat roundtail chub	<i>Gila robusta jordani</i>	E	SCP	S					x
Virgin River chub (Muddy River)	<i>Gila seminuda</i>	NS	SCP	S				x	
Moapa dace ³	<i>Moapa coriacea</i>	E	SCP	S				x	
Moapa speckled dace ³	<i>Rhinichthys osculus moapae</i>	NS	SCP	P				x	
Ash Meadows speckled dace ³	<i>Rhinichthys osculus nevadensis</i>	E	SCP	S	x				

Table 3. Sensitive Wildlife Species That May Occur at the Desert National Wildlife Refuge Complex

Common Name	Scientific Name	FWS	Status ¹				Refuge ²		
			NV	BLM	AHME	DEST	MOVA	PAHR	
Fish, continued									
Pahrnagat speckled dace	<i>Rhinichthys osculus velifer</i>	NS	SCP	P					x
Invertebrates									
Death Valley Agabus diving beetle	<i>Agabus runppi</i>	NS	-	-	x				
Ash Meadows naucorid ³	<i>Ambrysus amargosus</i>	T	-	S	x				
MacNeil sootywing skipper	<i>Hesperopsis graciae</i>	NS	-	N				x	
Nevada admiral	<i>Limenitus weidemeyerii nevadae</i>	NS	-	N		x			
Warm Springs naucorid ³	<i>Ambrysus relictus</i>	NS	-	-				x	
Amargosa naucorid	<i>Pelocoris shoshone amargosus</i>	NS	-	-	x				
Pahrnagat naucorid	<i>Pelocoris shoshone shoshone</i>	NS	-	N				x	x
Ash Meadows alkali skipperling	<i>Pseudocopaodes eunus alinea</i>	NS	-	-	x				
Moapa pebblesnail ³	<i>Pyrgulopsis avernalis</i>	NS	SCP	-				x	
Moapa Valley springsnail	<i>Pyrgulopsis carinifera</i>	NS	SCP	-				x	
Crystal Spring springsnail ³	<i>Pyrgulopsis crystalis</i>	NS	SCP	-	x				
Ash Meadows pebblesnail ³	<i>Pyrgulopsis erythropoma</i>	NS	-	-	x				
Fairbanks springsnail ³	<i>Pyrgulopsis fairbanksensis</i>	NS	SCP	-	x				
Corn Creek springsnail	<i>Pyrgulopsis fausta</i>	NS	SCP	-			x		
Elongate-gland springsnail ³	<i>Pyrgulopsis isolata</i>	NS	SCP	-	x				
Pahrnagat pebblesnail	<i>Pyrgulopsis merriami</i>	NS	SCP	N					x
Oasis Valley springsnail	<i>Pyrgulopsis micrococcus</i>	NS	SCP	N	x				
Distal-gland springsnail ³	<i>Pyrgulopsis nanus</i>	NS	SCP	-	x				
Median-gland Nevada springsnail ³	<i>Pyrgulopsis pisteri</i>	NS	SCP	-	x				
Southeast Nevada springsnail	<i>Pyrgulopsis turbatrix</i>	NS	SCP	-			x		
Devils Hole Warm Spring riffle beetle ³	<i>Stenelmis calida calida</i>	NS	-	N	x				
Moapa Warm Spring riffle beetle ³	<i>Stenelmis moapa</i>	NS	-	N				x	x
Sportinggoods tryonia ³	<i>Tryonia angulata</i>	NS	SCP	-	x				
Grated tryonia	<i>Tryonia clathrata</i>	NS	SCP	N				x	x
Point of Rocks tryonia ³	<i>Tryonia elata</i>	NS	SCP	-	x				
Minute tryonia ³	<i>Tryonia ericae</i>	NS	SCP	-	x				
Amargosa tryonia	<i>Tryonia variegata</i>	NS	SCP	-	x				

Table 3. Sensitive Wildlife Species That May Occur at the Desert National Wildlife Refuge Complex

<i>Common Name</i>	<i>Scientific Name</i>	<i>Status¹</i>				<i>Refuge²</i>		
		<i>FWS</i>	<i>NV</i>	<i>BLM</i>	<i>AHME</i>	<i>DEST</i>	<i>MOVA</i>	<i>PAHR</i>
Invertebrates, continued								
Virile Amargosa snail	Undescribed	-	-	-	x			
Amphipod	Undescribed	-	-	-	x			

¹Status: BCC=Bird of Conservation Concern; C=Candidate for listing under ESA; E=Endangered; N=Nevada special status species, sensitive; NS=No Status; these species were previously considered species of concern; P=proposed Nevada special status species, proposed sensitive; S=Nevada special status species, state or federal protected or federal candidate; SCP=Species of Conservation Priority; SS=Stewardship Species; T=Threatened; U=Unknown status

²Refuges: AHME- Ash Meadows NWR; DEST- Desert NWR; MOVA- Moapa Valley NWR; PAHR- Pahrangat NWR

³Endemic to Refuge

⁴Possibly extinct

Sources: Service 2006b; NNHP 2004; Service 2002a; NDOW 2005.

Table 4. Desert NWR Complex Priority Bird Species

<i>Common Name</i>	<i>Scientific Name</i>	<i>FWS</i>	<i>Global Rank</i>	<i>State Rank</i>	<i>Continental PIF Pop Objective</i>	<i>Continental PIF Status</i>	<i>Audubon Society Watch List</i>	<i>NV PIF Priority*</i>	<i>NV WAP Priority?</i>	<i>US Shorebird Conservation Plan</i>	<i>Natl Colonial Waterbird Cons Plan</i>	<i>Waterbird Cons Plan Intermtn West</i>	<i>N. American Waterfowl Management Plan Trend</i>
Waterbirds													
Eared Grebe	<i>Podiceps nigricollis</i>	BCC	G5	S4B					X		MC	HC	
Western Grebe	<i>Aechmophorus occidentalis</i>		G5	S4B					X		MC	HC	
American White Pelican	<i>Pelecanus erythrorhynchos</i>		G3	S2B				X	X		MC	HC	
Black-crowned Night-heron	<i>Nycticorax nycticorax</i>		G5	S5B							MC	MC	
Franklin's Gull	<i>Larus pipixcan</i>		G4G5	S3B					X		MC	HC	
California Gull	<i>Larus californicus</i>		G5	S5B							MC	MC	
Forster's Tern	<i>Sterna forsteri</i>		G5	S3B					X		MC	MC	
Black Tern	<i>Chlidonias niger</i>		G4	S2S3B				X	X		MC	HC	
Clark's Grebe	<i>Aechmophorus clarkii</i>		G5	S4B			R	X	X		LC		
White-faced Ibis	<i>Plegadis chihi</i>		G5	S3B				X	X		LC	HC	
Snowy Egret	<i>Egretta thula</i>		G5	S4B					X		HC	HC	
Shorebirds													
Marbled Godwit	<i>Limosa fedoa</i>	BCC	G5	S3M							HC		
Western Sandpiper	<i>Calidris mauri</i>		G5	S5M							HC		
Dunlin	<i>Calidris alpina</i>		G5	S4N							HC		
Wilson's Phalarope	<i>Phalaropus tricolor</i>		G5	S2S3B							HC		
Snowy Plover	<i>Charadrius alexandrinus</i>	BCC	G4	S3B				D	X	X	HI		
Long-billed Curlew	<i>Numenius americanus</i>	BCC	G5	S2S3B				D	X	X	HI		
Waterfowl													
American Wigeon	<i>Anas americana</i>		G5	S4B									none
Canada Goose	<i>Branta canadensis</i>		G5	S5									↑
Canvasback	<i>Aythya valisineria</i>		G5	S3					X				none
Cinnamon Teal	<i>Anas cyanoptera</i>		G5	S5B					X				none

Table 4. Desert NWR Complex Priority Bird Species

<i>Common Name</i>	<i>Scientific Name</i>	<i>FWS</i>	<i>Global Rank</i>	<i>State Rank</i>	<i>Continental PIF Pop Objective</i>	<i>Continental PIF Status</i>	<i>Audubon Society Watch List</i>	<i>NV PIF Priority*</i>	<i>NV WAP Priority?</i>	<i>US Shorebird Conservation Plan</i>	<i>Natl Colonial Waterbird Cons Plan</i>	<i>Waterbird Cons Plan Intermtn West</i>	<i>N. American Waterfowl Management Plan Trend</i>
Gadwall	<i>Anas strepera</i>		G5	S4BS5N									↑
Greater White-fronted Goose	<i>Anser albifrons</i>		G5	S4N									↑
Green-winged Teal	<i>Anas crecca</i>		G5	S4BS5N									↑
Lesser Scaup	<i>Anas crecca</i>		G5	S4NS4B									↓
Lesser snow goose	<i>Chen caerulescens</i>		G5	S4N									none
Mallard	<i>Anas platyrhynchos</i>		G5	S5									none
Northern Pintail	<i>Anas acuta</i>		G5	S5					X				↓
Northern Shoveler	<i>Anas clypeata</i>		G5	S4BS4N									↑
Redhead	<i>Aythya americana</i>		G5	S4B					X				none
Ring-necked Duck	<i>Aythya collaris</i>		G5	S4									↑
Tundra Swan	<i>Cygnus columbianus</i>		G5	S4B									↑
Wood Duck	<i>Axi sponsa</i>		G5	S4B									↑
Landbirds													
Bendire's Thrasher	<i>Toxostoma bendirei</i>	BCC	G4G5	S1	↑ 100%	WL	HC		X				
White-throated Swift	<i>Aeronautes saxatalis</i>		G5	S4B	↑ 100%	WL			X				
Pinyon Jay	<i>Gymnorhinus cyanocephalus</i>	BCC	G5	S3S4	↑ 100%	WL	D	X	X				
Arizona Bell's Vireo	<i>Vireo bellii arizonae</i>		G5T4	S2B	↑ 100%	WL	HC		X				
Southwestern Willow Flycatcher	<i>Empidonax traillii extimus</i>	BCC/E	G5T1T2	S1B	↑ 50%	WL	D	X	X				
Black-chinned Sparrow	<i>Spizella atrogularis</i>	BCC	G5	S3B	↑ 50%	WL	HC		X				
Virginia's Warbler	<i>Vermivora virginiae</i>	BCC	G5	S4B	Maint./ ↑	WL	R	X	X				
Costa's Hummingbird	<i>Calypte costae</i>	BCC	G5	S3B	Maint./ ↑	WL	R		X				
Le Conte's Thrasher	<i>Toxostoma lecontei</i>	BCC	G3	S2	Maint./ ↑	WL	R	X	X				
Lucy's Warbler	<i>Vermivora luciae</i>	BCC	G5	S2S3B	Maint./ ↑	WL	R	X	X				
Abert's Towhee	<i>Pipilo aberti</i>		G3G4	S3	Maint./ ↑	WL	R		X				

Table 4. Desert NWR Complex Priority Bird Species

Common Name	Scientific Name	FWS	Global Rank	State Rank	Continental PIF Pop Objective	Continental PIF Status	Audubon Society Watch List	NV PIF Priority*	NV WAP Priority?	US Shorebird Conservation Plan	Natl Colonial Waterbird Cons Plan	Waterbird Cons Plan Intermtn West	N. American Waterfowl Management Plan Trend
Lewis's Woodpecker	<i>Melanerpes lewis</i>	BCC	G4	S3	Maint./ ↑	WL		X	X				
Flammulated Owl	<i>Otus flammeolus</i>	BCC	G4	S4B	Maint./ ↑	WL	R	X	X				
Gray Vireo	<i>Vireo vicinior</i>	BCC	G4	S3B	Maintain	WL	R	X	X				
Gambel's Quail	<i>Callipepla gambelii</i>		G5	S5	Maintain	S							
Red-naped Sapsucker	<i>Sphyrapicus nuchalis</i>		G5	S4S5B	Maintain	S		X					
Dusky Flycatcher	<i>Empidonax oberholseri</i>		G5	S4B	Maintain	S							
Gray Flycatcher	<i>Empidonax wrightii</i>		G5	S4B	Maintain	S		X					
Verdin	<i>Auriparus flaviceps</i>		G5	S3	Maintain	S			X				
Cactus Wren	<i>Campylorhynchus brunneicapillus</i>		G5	S4	Maintain	S							
Black-tailed Gnatcatcher	<i>Polioptila melanura</i>		G5	S4	Maintain	S							
Mountain Bluebird	<i>Sialia currucoides</i>		G5	S4	Maintain	S							
Crissal Thrasher	<i>Toxostoma crissale</i>		G5	S3	Maintain	S			X				
Phainopepla	<i>Phainopepla nitens</i>		G5	S2B	Maintain	S		X	X				
Black-throated Gray Warbler	<i>Dendroica nigrescens</i>		G5	S5B	Maintain	S		X					
Green-tailed Towhee	<i>Pipilo chlorurus</i>	BCC	G5	S5B	Maintain	S							
Black-throated Sparrow	<i>Amphispiza bilineata</i>		G5	S5B	Maintain	S							
Sage Sparrow	<i>Amphispiza belli</i>	BCC	G5	S4B	Maintain	S	D	X	X				
Yellow-headed Blackbird	<i>Xanthocephalus xanthocephalus</i>		G5	S4B	Maintain	S							
Scott's Oriole	<i>Icterus parisorum</i>		G5	S4B	Maintain	S		X	X				
Peregrine Falcon	<i>Falco peregrinus</i>	BCC	G4	S2		S			X				
Western Yellow-billed Cuckoo	<i>Coccyzus americanus occidentalis</i>	BCC/C	G5T3Q	S1B									
Western Burrowing Owl	<i>Athene cunicularia hypugaea</i>		G4T4	S3B									

Table 4. Desert NWR Complex Priority Bird Species

<i>Common Name</i>	<i>Scientific Name</i>	<i>FWS</i>	<i>Global Rank</i>	<i>State Rank</i>	<i>Continental PIF Pop Objective</i>	<i>Continental PIF Status</i>	<i>Audubon Society Watch List</i>	<i>NV PIF Priority*</i>	<i>NV WAP Priority?</i>	<i>US Shorebird Conservation Plan</i>	<i>Natl Colonial Waterbird Cons Plan</i>	<i>Waterbird Cons Plan Intermtn West</i>	<i>N. American Waterfowl Management Plan Trend</i>
Code Definitions													
G1	Critically Imperiled—At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.												
G2	Imperiled—At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.												
G3	Vulnerable—At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.												
G4	Apparently Secure—Uncommon but not rare; some cause for long-term concern due to declines or other factors.												
G5	Secure—Common; widespread and abundant.												
S1	Critically Imperiled—Critically imperiled in the nation or state/province because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province.												
S2	Imperiled—Imperiled in the nation or state/province because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province.												
S3	Vulnerable—Vulnerable in the nation or state/province due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.												
S4	Apparently Secure—Uncommon but not rare; some cause for long-term concern due to declines or other factors.												
Bold	= highest priority	↑ = increase/increasing	↓ - decrease/decreasing	WL = watch list	S = stewardship	HC = high concern	MC = moderate concern						
LC	= low concern	D = declining	R = rare										

Table 5. Priority Bird Species Benefiting from Proposed Restoration and Management Actions

Common Name	Ash Meadows NWR						Desert NWR				Moapa Valley NWR				Pahranagat NWR					
	Wet Mead ¹	Upl	Mes Bos/ Rip	Em Mar	Spr/ Chan	Des Scr	P-J	Pine	Spr/ Chan	Mes Bos/ Rip	Spr/ Chan	Rip	Mes Bos	Em Mar	Des Scr	Open Water	Em Mar	Wet Mead	Alkali Flat	Rip
Waterbirds																				
Eared Grebe				x										x		x		x		
Western Grebe				x										x		x		x		
American White Pelican																x				
Black-crowned Night-heron			x	x	x				x	x	x	x	x	x				x		x
Franklin's Gull				x										x				x		
California Gull				x										x		x		x		
Forster's Tern				x										x		x		x		
Black Tern				x										x		x		x		
Clark's Grebe				x										x		x		x		
White-faced Ibis	x			x										x				x	x	
Snowy Egret	x		x	x	x				x	x	x	x	x	x				x	x	x
Shorebirds																				
Marbled Godwit	x																			x
Western Sandpiper	x																			
Dunlin	x																			
Wilson's Phalarope	x			x												x	x	x		
Snowy Plover																				x
Long-billed curlew	x																			x
Waterfowl																				
American Wigeon	x			x	x				x		x			x				x	x	
Canada Goose	x			x										x				x	x	
Canvasback	x			x												x		x	x	
Cinnamon Teal	x			x	x				x		x			x				x	x	
Gadwall	x			x										x				x	x	
Greater White-fronted Goose	x			x														x	x	
Green-winged Teal	x			x										x				x	x	
Lesser Scaup				x												x		x		
Lesser snow goose	x			x														x	x	

Table 5. Priority Bird Species Benefiting from Proposed Restoration and Management Actions

Common Name	Ash Meadows NWR						Desert NWR				Moapa Valley NWR					Pahranagat NWR				
	Wet Mead ¹	Upl	Mes Bos/ Rip	Em Mar	Spr/ Chan	Des Scr	P-J	Pon Pine	Spr/ Chan	Mes Bos/ Rip	Spr/ Chan	Rip	Mes Bos	Em Mar	Des Scr	Open Water	Em Mar	Wet Mead	Alkali Flat	Rip
Mallard	x			x	x				x		x			x			x	x		
Northern Pintail	x			x										x			x	x		
Northern Shoveler	x			x													x	x		
Redhead	x			x												x	x	x		
Ring-necked Duck	x			x												x	x	x		
Wood Duck			x	x	x				x		x						x			x
Landbirds																				
White-throated Swift		x				x													x	
Pinyon Jay							x													
Arizona Bell's Vireo			x							x		x	x							x
Southwestern Willow Flycatcher			x							x		x	x							x
Black-chinned Sparrow							x													
Virginia's Warbler			x							x		x	x							x
Costa's Hummingbird		x	x			x				x		x	x		x					x
LeConte's Thrasher		x				x									x					
Lucy's Warbler			x							x		x	x							x
Abert's Towhee			x							x		x								x
Lewis's Woodpecker								x												x
Flammulated Owl								x												
Gray Vireo			x				x			x		x								x
Gambel's Quail		x	x			x				x		x			x				x	x
Red-naped Sapsucker			x					x		x		x								x
Dusky Flycatcher			x							x		x								x
Gray Flycatcher			x				x			x		x								x
Verdin		x	x			x				x		x	x		x					x
Cactus Wren		x				x									x					
Black-tailed Gnatcatcher		x	x			x				x		x	x		x					x
Mountain Bluebird			x				x			x										x
Crissal Thrasher			x			x									x					
Phainopepla			x							x		x	x							x

Table 5. Priority Bird Species Benefiting from Proposed Restoration and Management Actions

Common Name	Ash Meadows NWR						Desert NWR				Moapa Valley NWR				Pahranagat NWR					
	Wet Mead ¹	Upl	Mes Bos/ Rip	Em Mar	Spr/ Chan	Des Scr	P-J	Pon Pine	Spr/ Chan	Mes Bos/ Rip	Spr/ Chan	Rip	Mes Bos	Em Mar	Des Scr	Open Water	Em Mar	Wet Mead	Alkali Flat	Rip
Black-throated Gray Warbler			x				x	x		x		x	x							x
Green-tailed Towhee			x				x			x		x	x							x
Black-throated Sparrow		x				x									x					
Sage Sparrow		x				x									x					
Yellow-headed Blackbird				x										x				x		
Scott's Oriole		x	x			x	x			x		x	x		x					x
Peregrine Falcon	x	x	x	x	x	x			x	x	x	x	x	x	x			x	x	x
Western Yellow-billed Cuckoo			x							x		x	x							x
Western Burrowing Owl		x				x				x		x			x					

Sources: Rich et al. 2004, Ivey and Herziger 2005, Service 1986, Brown et al. 2001, Kushlan et al. 2002, Nevada Partners in Flight 1999, and NDOW 2005.

¹Habitats: Wet Mead=Alkali wet meadow or montane wet meadow, Upl=Native upland, Mes Bos=Mesquite bosque, Rip=Lowland riparian or riparian, Em Mar=Emergent marsh, Spr/Chan=Spring/Channel, Des Scr=Desert scrub, P-J=Pinyon-juniper woodland (prescribed burns), Pon Pine=Ponderosa pine forest (prescribed burn),

Desert NWR Big Game Species Accounts

Desert bighorn sheep are a subspecies of the bighorn sheep (*Ovis canadensis*). *O. canadensis* is a large, herbivorous ungulate that lives in open grasslands or shrub-steppe communities in mountains, foothills, or river canyons (Shackleton 1985). Escape terrain, such as cliffs and talus slopes, are a necessary habitat requirement for the bighorn sheep. During winter months, as much as 86 percent of their time is spent near escape terrain. In southern Nevada, *O. canadensis nelsoni* lives at higher elevations and moves to lower elevations during the cold winter months (Air Warfare Center 1999). This vertical migration coincides with the increasing abundance of new growth and presence of snow at higher elevations. During spring and summer, new growth begins to appear and provides food for the bighorn sheep as they return to the higher elevations.

Desert bighorn sheep are adapted to survival in the desert by being able to withstand 10 days without water (Warrick and Krausman 1989). They will eat barrel cactus to satisfy their water requirements. The mating season for desert bighorns is in the fall and may encompass several months (Shackleton 1985). Lambs are born in early spring, usually March, and are weaned in 4 to 6 months. Females live with their young, and males live apart from both during most of the year.

Desert bighorn sheep utilize habitat within the Desert NWR along all of the major mountain ranges: Pintwater, Sheep, Spotted, Desert, and Las Vegas (BLM 2001). They forage, breed, and raise young on barren cliffs along these mountain ranges. The Desert NWR is one of the largest intact blocks of habitat for the bighorn sheep in the southwestern United States. Water is a limiting resource, so 30 springs and 26 “guzzlers,” or catchments, have been improved to maintain a permanent water source. Hunting is permitted for three weeks in late fall to winter in the Spotted and Pintwater Ranges depending on the current population estimate of the herd (Air Warfare Center 1999).

Mule deer (*Odocoileus hemionus*) are herbivorous ungulates that browse on a wide variety of woody plants and graze on grasses and forbs (Anderson and Wallmo 1984). Feeding on agricultural crops and eating mushrooms in the fall are also common forage habits for mule deer. Preferred habitat types for the mule deer include coniferous forest, desert shrub, chaparral, and grasslands with shrubs. They are often associated with successional growth near agricultural fields. Precipitation patterns tend to trigger migration in mule deer.

Mating occurs in late November to mid-December, and young are born the following spring or as late as July or August in some cases (Anderson and Wallmo 1984). Litter size is 1 to 2 young and varies with the age and condition of the female. Young are usually weaned by their fourth month and depend heavily on sufficient cover to survive to adulthood. Predation by mountain lions and coyotes is a major threat to fawns.

Mule deer utilize habitat on the Desert NWR along the Pintwater Range, the Sheep Range, and the Desert Mountain Range, as well as other areas outside the Desert NWR (BLM 2001).

Sensitive Species Accounts

Arizona Bell's vireo (*Vireo bellii arizonae*) is considered a Bird of Conservation Concern by the Service. In southern Nevada, the Arizona Bell's vireo occurs along rivers and streams, in desert washes, and in mesquite bosques (NDOW 2005). The vireo's preferred habitat consists of dense undergrowth with low, shrubby vegetation. It occupies riparian areas, brushy fields, young second-growth forest or woodland, scrub oak, and mesquite woodlands. Nests are built on branches in dense bushes and small trees and occasionally in herbaceous vegetation. This bird's diet consists primarily of insects and spiders.

The **Ash Meadows Amargosa pupfish** (*Cyprinodon nevadensis mionectes*) was federally listed as endangered with critical habitat on September 2, 1983 (48 FR 40178). It is only found in ten spring areas within Ash Meadows, all of which have been designated as critical habitat (Service 1990). The pupfish's habitat ranges from large, deep springs (Crystal Pool) to small spring pools with no overflow discharge (Five Springs complex). Streamflow from several of the springs joins at some point on the Ash Meadows NWR, but many do not as a result agricultural diversions; thus habitat fragmentation has occurred. Other threats to this pupfish have included drying of springs due to pumping of groundwater, elimination of riparian vegetation, and the introduction of non-native species (e.g., crayfish, bullfrog).

The **Ash Meadows naucorid** (*Ambrysus relictus*) is an aquatic beetle that was listed as threatened with critical habitat on May 20, 1985 (50 FR 20777). The naucorid is known to exist at Point of Rocks Springs within the Ash Meadows NWR, where it occupies an extremely restricted habitat where flowing water passes over rock and pebble substrates (Service 1990). It can also be found on stones and rocky substrates in thermal swift currents (Hershler and Sada 1987). If factors threaten the naucorid, such as non-native species, the naucorid is more susceptible to extirpation given its limited distribution.

The **Ash Meadows speckled dace** (*Rhinichthys osculus nevadensis*) was federally listed as endangered with critical habitat on September 2, 1983 (48 FR 40178). It is only found in four springs on the Ash Meadows NWR: Bradford, Big, Tubbs, and Jackrabbit Springs (Service 1990). Flowing streams are the preferred habitat for the dace because they like to feed on drifting insects. Females lay eggs over stream riffles, and males fertilize them as they drift to the substrate. The dace's naturally limited range and presence of introduced species are the main threats to this species' population.

The **bald eagle** (*Haliaeetus leucocephalus*) was adopted as the United States national emblem in 1782 (Service 1999). Bald eagles are large brown raptors with wingspans up to 8 feet across. As adults, they have white heads and yellow beaks. Juveniles are brown with some white spots on their bodies and black beaks. Habitat for bald eagles consists of streams, rivers, lakes, and ponds with tall trees nearby for perching and nesting (Service 1999).

The bald eagle's range is from Alaska and southern Canada to Florida (Alaska Department of Natural Resources 2001). It is only found on the North American continent. The bald eagle was listed as endangered in most of the lower 48 states in 1973. Since then, populations have increased, and it was downlisted to threatened status in 1995. In 1999, the Service proposed that the bald eagle be de-listed, and on August 8, 2007, the bald eagle was officially de-listed (72 FR 37345-37372). Populations are considered stable in the lower 48 states with an estimate of 6,000 nesting pairs.

The **desert tortoise** (*Gopherus agassizii*) occurs in the Mojave, Colorado, and Sonoran Deserts in North America and is listed as threatened in the Mojave Desert (Berry 1997). It is most commonly found in creosote bush scrub communities in the Upper Sonoran life zones. Habitat often consists of well-drained sandy loam soils, suitable for burrowing. Tortoise burrows are typically found in washes and arroyos in the Mojave Desert.

Tortoises burrow into the ground to escape the heat in summer, rest, and find warmth in winter. They often use multiple burrows within a short time frame (about 1 week) (Berry 1997). Tortoises also have separate burrows for the winter and summer months and can be found under bushes at night. Eggs are laid in shallow depressions near or inside a burrow. Eggs are often laid in late spring/early summer and are relatively large in size, with a diameter of 30 to 40 millimeters and weight of 20 to 40 grams. Clutch size can be up to 15 eggs, but averages 3 to 7. Incubation period and size and sex of the hatchlings depend on the temperature; cooler temperatures yield longer periods and mostly larger, male hatchlings.

Desert tortoises can live more than 50 years, with juveniles reaching sexual maturity between 13 and 16 years of age (Berry 1997). Juveniles have distinct growth rings on their carapaces, and their growth rate is much higher than an adult's growth rate. At about 20 to 25 years of age, these rings begin to fade and wear out. Tortoise age can be easily determined up to this point when the vegetation growth season is known for the area. Rings are grown annually when there is only one growth season and multiple times a year for more than one season. Adult tortoises have a 20- to 36-centimeter-long carapace, and males are larger than females. Males can also be distinguished by their longer gular shield and larger chin glands on both sides of the lower jaw.

The desert tortoise's range on the North American continent is in the southwestern United States and northwestern Mexico at elevations typically lower than 4,000 feet above msl. Populations are generally stable in Arizona, but they are declining in other areas. Destruction of habitat is the main reason for their decline, but other factors such as disease and mortality caused by humans also contribute to the decrease in tortoise populations in the Southwest.

The final rule for critical habitat for the Mojave Desert population was made in 1994, but it is subject to change if the need arises from future management plans. This ruling used 14 Desert Wildlife Management Areas determined by the Desert Tortoise Recovery Plan as the basis for critical habitat units and designated approximately 10,000 square miles of critical habitat (Berry 1997). These areas contain ideal habitat for the desert tortoise and help divide the populations into smaller areas, so they can be monitored more easily. The desert tortoise population on the Desert NWR is part of the Northeastern Mojave Desert Recovery Unit. All of the Desert NWR is located within the Coyote Spring Desert Wildlife Management Area. The desert tortoise has also been detected in the Pahranaagat Valley foothills and likely occurs on Pahranaagat NWR (Manville 2007).

The **Devils Hole pupfish** (*Cyprinodon diabolis*) was listed as endangered by the Service on March 11, 1967 (32 FR 4001). It was also listed as critically endangered by the State of Nevada on January 1, 1969 (Service 1980). Devils Hole is the only natural habitat for this species, so it was designated as a detached part of Death Valley National Monument on January 17, 1952, in order to protect the fish.

Devils Hole is the opening to a deep, water-filled limestone cavern, and it is the smallest habitat in the world containing the entire population of a vertebrate species (Service 1980). The segment of the water table that is exposed to sunlight measures approximately 10 by 70 feet, and it is this area that the pupfish use for feeding and reproduction. As water level declined in the late 1960s and early 1970s due to groundwater pumping for irrigation, less area was exposed to sunlight, limiting habitat for the pupfish. A minimum water level was established in the late 1970s to ensure the survival of this species by maintaining its only natural habitat.

Two refugia were established in the 1970s and 1980s to support additional populations of Devils Hole pupfish (Service 1980). One of the refugia was located at Hoover Dam and was constructed by the U.S. Bureau of Reclamation. The second alternate population was started at Amargosa Pupfish Station on Ash Meadows NWR. The objective of the pupfish's recovery plan is to down-list the fish from endangered to threatened and manage it as such in its natural habitat. Nearby groundwater pumping has been halted, but more recent threats to the pupfish in its natural habitat include habitat degradation from surface runoff, vandalism, accidents, and impacts associated with major land use changes in the surrounding area.

The **ferruginous hawk** (*Buteo regalis*) is considered a Bird of Conservation Concern by the Service. It occurs throughout Nevada and is a year-round resident in southern Nevada (NDOW 2005). Ferruginous hawks occur in montane shrublands, open land, and lower montane woodlands. Nests are

primarily built in live Utah juniper trees, but some nests have been observed on hills, banks, tall trees, or other tall structures. The breeding and nesting period is generally late February to early October.

The **Moapa dace** (*Moapa coriacea*) was federally listed as endangered under the Endangered Species Preservation Act of 1966 on March 11, 1967 (32 FR 4001), and has been protected under the ESA since its inception in 1973.

The Moapa dace is unique because it is the only representative of the genus *Moapa* (Service 1983). Its habitat is restricted to the headwaters of the Muddy River where water temperatures occur in the narrow range between 82° and 90°F. The dace does not extend beyond the headwater springs because further from the spring orifice, the water becomes cooler and more silty. Currently, the dace's distribution is even more restricted to portions of three springs and less than 2 miles of streams in the Warm Springs area. The remainder of the spring system has been invaded by tilapia (*Oreochromis aurea*), a non-native fish, and made unsuitable for the dace by other habitat modifications (Service 1996).

Moapa dace habitat is managed under the Moapa Dace Recovery Plan (Service 1983) and the Recovery Plan for the Rare Aquatic Species of the Muddy River Ecosystem (Service 1996). Attempts to transplant this species into waters of two other habitats failed. During a snorkel survey conducted in January 2001, 935 Moapa dace were recorded in the Muddy River and its tributaries (Heinrich 2001). Of those observed during the survey, 580 dace were on the Pedersen Unit and 59 were on the Plummer Unit. The population of this species was estimated at 1,000 individuals in 2002, which declined from 4,000 in 1995 after the invasion of the tilapia (*Oreochromis aureus*) (Scoppettone 2002). More recent snorkel surveys in 2007 reported 1,172 Moapa dace in the Muddy River and its tributaries. Of those observed during the 2007 surveys, 565 Moapa dace were located at the Moapa Valley NWR (Goodchild 2007). Reasons for decline in dace populations include competition with shortfin molly and other introduced species and destruction and modification of habitat; efforts to remove introduced species and improve habitat have allowed the dace population to increase.

The **Pahranagat roundtail chub** (*Gila robusta jordani*) is a subspecies of the roundtail chub (*G. robusta*) in the Colorado River system (Service 1998). The Pahranagat roundtail chub is greenish in color with black blotches and reaches a total length of approximately 10 inches. Historically, the Pahranagat roundtail chub was found in streams, creeks, and ditches throughout the Pahranagat Valley. In 1997, the population was estimated to contain 150 to 260 adults. It is restricted to the Ash Spring outflow, including a portion of Pahranagat Creek and an irrigation ditch, in the Pahranagat Valley (NDOW 2005).

The Pahranagat roundtail chub was listed as endangered in October 1970 (35 FR 16047). Recovery criteria for the Pahranagat roundtail chub include improved habitat within the Pahranagat Creek and Ditch and along the outflow stream of Crystal Spring, reduced impacts to the species such that they no longer threaten the fish, and establishment of a self-sustaining population in the Crystal Spring outflow stream and Pahranagat Creek/Ditch (Service 1998).

The **Pahrump poolfish** (*Empetrichthys latos*), also known as the Pahrump killifish, is a small, slender, omnivorous fish about 2 inches long (Service 1993). It spawns in spring, but may spawn during any time of the year under proper conditions. The poolfish is a thermal species that can be found in warm springs with little fluctuation in temperature. Their tolerant range is between 74 and 77 degrees Fahrenheit. The Pahrump poolfish is native to Manse Springs in Pahrump Valley. In 1975 its habitat was dessicated due to groundwater pumping.

The Pahrump poolfish was listed as endangered in March 1967, but in 1993, it was proposed for reclassification as threatened (Service 1993). As of 1993, it was found in Nevada at only three sites where the populations had to be introduced. Two were outside of Las Vegas: one in the Spring Mountains and one on the Desert NWR. The third was in Shoshone Springs outside of Ely. Corn Creek Springs on the Desert NWR was home to one of the populations that was introduced in the 1970s. The Spring Mountain Ranch State Park population was established in an irrigation reservoir after the species became extirpated from its natural home. Non-native species forced the poolfish out of the population in Corn Creek Springs during the last 10 years. Bullfrogs and crayfish out-competed the poolfish, but in June 2003, it was reintroduced to a refugium at Corn Creek.

The **peregrine falcon** (*Falco peregrinus*) is considered a Bird of Conservation Concern by the Service. It occurs throughout Nevada as a permanent resident (NDOW 2005). Peregrine falcons occur in open areas, developed areas, marsh habitat, and in or near cliffs and canyons. This species nests on rocky cliff faces or ledges and forages in farmland, developed areas, along rivers, and in marshes. Nests are typically found on ledges with a sheltering overhang. The breeding and nesting period is generally late April to early September.

The **southwestern willow flycatcher** (*Empidonax traillii extimus*) was listed as endangered on February 27, 1995 (60 FR 10693), and critical habitat was designated on October 19, 2005 (70 FR 60885). The critical habitat designation includes 120,824 acres or 737 miles of suitable habitat along several streams and rivers in California, Arizona, Nevada, Utah, and New Mexico (Service 1997). This flycatcher subspecies nests in dense, riparian woodlands with trees averaging 13 to 23 feet tall. Common species associated with flycatcher habitat include willow, seep willow, boxelder (*Acer negundo*), stinging nettle (*Urtica* spp.), blackberry (*Rubus* spp.), cottonwood, and arrowweed (*Tessaria sericea*) (Service 2002b). Riparian habitat in the Southwest has, however, declined dramatically over the past 100 years, and this loss of habitat has been a major threat to flycatcher populations.

The southwestern willow flycatcher is only found in six states in the southwestern U.S. (Finch and Stoleson 2000). During winter months it can be found in Central America. A survey of flycatcher populations between 1993 and 1996 estimated less than 1,000 individuals in the U.S. New Mexico had the most abundant population with around 300 individuals. Only three individuals were estimated to occur in Nevada according to surveys conducted between 1993 and 1996 (Finch and Stoleson 2000). The flycatcher is known to occur at Ash Meadows NWR, and resident and/or breeding individuals have been reported on the Refuge since 1999 (NDOW 2007). It may also occur at Moapa Valley NWR because it has been observed along the Muddy River, near its confluence with the Colorado River. Surveys are conducted annually at Pahrangat NWR. In 2005, 37 adult southwestern willow flycatchers were detected in the riparian habitats on the refuge with 11 breeding individuals, and 21 nestlings were observed at 7 nest sites (Koronkiewicz et.al 2006). Preliminary data for 2006 surveys estimate 34 adult flycatchers with 15 breeding pairs (McLeod 2006).

Habitat loss and brood parasitism are the common causes of the decline of this subspecies (Finch and Stoleson 2000). The brown-headed cowbird (*Molothrus ater*) often lays its eggs in flycatcher nests and reduces the survival rate of young flycatchers.

The **Virgin River chub** (*Gila seminuda*, Muddy River population) is a silvery colored fish with olive shading on the back (Service 1995). It can reach a maximum length of 18 inches and has a streamlined body with a deeply forked tail. Virgin River chub occur in two distinct populations in the Muddy and Virgin Rivers. These populations were historically connected prior to establishment of Lake Mead; however, since Lake Mead filled, there has been no movement between the two populations. In the mid-1990s, the Muddy River population in the main stem was estimated at more than 20,000

individuals. Muddy River chub are monitored annually by NDOW using hoop nets and other methods (NDOW 2005).

The **Warm Springs pupfish** (*Cyprinodon nevadensis pectoralis*) was federally listed as endangered on October 13, 1970 (35 FR 16047). It occupies six small, isolated springs less than 1 mile west of Devils Hole (Service 1990). These springs encompass an area less than 0.77 square mile. Alteration of the springs has decreased the available water, reduced the quality of the habitat, and threatened the survival of the Warm Springs pupfish. Since this pupfish's habitat is located within the area surrounding Devils Hole that is protected from groundwater withdrawal, its ability to survive is similar to the Devils Hole pupfish. The introduction of predatory and/or competing species has also threatened the pupfish's small population. Factors threatening the Warm Springs pupfish, such as alteration of springs and non-native fish, can make the species more susceptible to extirpation given its limited distribution.

The **western burrowing owl** (*Athene cunicularia hypugea*) is considered a Bird of Conservation Concern by the Service (NDOW 2005). It migrates to Nevada in the spring, and some individuals may spend most of the year in Nevada. Preferred habitat for western burrowing owl consists of short vegetation with fresh small mammal burrows. Because this species is a ground-nesting bird, burrow use is influenced by availability, soils, and dynamics of the small mammals population. This species often uses rodent burrows to nest in and may use satellite burrows to relocate young and avoid predation.

The **yellow-billed cuckoo** (*Coccyzus americanus*) is a federal candidate species in the western continental U.S.. The most recent review of this species categorizes it as a lower priority species for listing although evidence shows that its populations are declining as suitable habitat continues to decline in the West (Service 2002c). The main cause for this species' decline is habitat loss, degradation, and fragmentation. The loss of riparian habitats in Arizona is estimated at 90 to 95 percent.

The preferred breeding habitat for cuckoos in the western U.S. includes large blocks of riparian woodland habitat consisting of cottonwoods, willows, and tamarisk. Nests are built in trees with dense understory foliage, and breeding occurs from mid-June to August, which overlaps with the emergence of large insects. Foraging occurs in the same habitat as nesting, and typical prey species include caterpillars, katydids, and cicadas.

The **Yuma clapper rail** (*Rallus longirostris yumanensis*) was listed as endangered without critical habitat on March 11, 1967 (32 FR 4001). The clapper rail utilizes freshwater or brackish stream sides and marshlands at elevations less than 4,500 feet (Service 2002d). It is known to occur in Arizona, and its current range is along portions of the Colorado, Gila, and Salt Rivers; Picacho Reservoir; and Tonto Creek. In Nevada, the clapper rail occurs along the Colorado River (south of Lake Mead toward Mexico), Las Vegas Wash, Virgin River, Muddy River, Pahrnagat Valley, and Amargosa Valley. Loss of habitat is the main reason for the decline of this species. The clapper rail has been documented to nest in the Muddy River drainage adjacent to Moapa Valley NWR and along the Colorado and Virgin Rivers in Nevada. It has also been reported at Ash Meadows NWR and in the Pahrnagat Valley and likely occurs at Pahrnagat NWR (Manville 2007). Habitat restoration at all refuges, but especially at Moapa Valley NWR, could result in additional breeding pairs and expansion of their range within Nevada.

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Species Lists: Ash Meadows NWR

Birds

Loons

Common loon	<i>Gavia immer</i>
Pacific loon	<i>Gavia pacifica</i>

Grebes

Clark's grebe	<i>Aechmophorus clarkii</i>
Western grebe	<i>Aechmophorus occidentalis</i>
Horned grebe	<i>Podiceps auritus</i>
Eared grebe	<i>Podiceps nigricollis</i>
Pied-billed grebe	<i>Podilymbus podiceps</i>

Pelicans and Cormorants

American white pelican	<i>Pelecanus erythrorhynchos</i>
Double-crested cormorant	<i>Phalacrocorax auritus</i>

Bitterns, Herons, and Ibis

Great egret	<i>Ardea alba</i>
Great blue heron	<i>Ardea herodias</i>
American bittern	<i>Botaurus lentiginosus</i>
Cattle egret	<i>Bubulcus ibis</i>
Green heron	<i>Butorides virescens</i>
Snowy egret	<i>Egretta thula</i>
Least bittern	<i>Ixobrychus exilis</i>
Black-crowned night-heron	<i>Nycticorax nycticorax</i>
White-faced ibis	<i>Plegadis chihi</i>

Waterfowl

Wood duck	<i>Aix sponsa</i>
Northern pintail	<i>Anas acuta</i>
American wigeon	<i>Anas americana</i>
Northern shoveler	<i>Anas clypeata</i>
Green-winged teal	<i>Anas crecca</i>
Cinnamon teal	<i>Anas cyanoptera</i>
Blue-winged teal	<i>Anas discors</i>
Mallard	<i>Anas platyrhynchos</i>

Waterfowl, continued

Gadwall	<i>Anas strepera</i>
Greater white-fronted goose	<i>Anser albifrons</i>
Lesser scaup	<i>Aythya affinis</i>
Redhead	<i>Aythya americana</i>
Ring-necked duck	<i>Aythya collaris</i>
Greater scaup	<i>Aythya marila</i>
Canvasback	<i>Aythya valisineria</i>
Canada goose	<i>Branta canadensis</i>
Bufflehead	<i>Bucephala albeola</i>
Common goldeneye	<i>Bucephala clangula</i>
Snow goose	<i>Chen caerulescens</i>
Tundra swan	<i>Cygnus columbianus</i>
Hooded merganser	<i>Lophodytes cucullatus</i>
Common merganser	<i>Mergus merganser</i>
Red-breasted merganser	<i>Mergus serrator</i>
Ruddy duck	<i>Oxyura jamaicensis</i>

Vultures

Turkey vulture	<i>Cathartes aura</i>
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Raptors

Cooper's hawk	<i>Accipiter cooperii</i>
Sharp-shinned hawk	<i>Accipiter striatus</i>
Golden eagle	<i>Aquila chrysaetos</i>
Red-tailed hawk	<i>Buteo jamaicensis</i>
Rough-legged hawk	<i>Buteo lagopus</i>
Red-shouldered hawk	<i>Buteo lineatus</i>
Ferruginous hawk	<i>Buteo regalis</i>
Swainson's hawk	<i>Buteo swainsoni</i>
Northern harrier	<i>Circus cyaneus</i>
White-tailed kite	<i>Elanus caeruleus</i>
Merlin	<i>Falco columbarius</i>
Prairie falcon	<i>Falco mexicanus</i>
Peregrine falcon	<i>Falco peregrinus</i>
American kestrel	<i>Falco sparverius</i>
Bald eagle	<i>Haliaeetus leucocephalus</i>
Osprey	<i>Pandion haliaetus</i>

Gallinaceous Birds

Chuckar	<i>Alectoris chukkar</i>
Gambel's quail	<i>Callipepla gambelii</i>

Rails

American coot	<i>Fulica americana</i>
Common moorhen	<i>Gallinula chloropus</i>
Sora	<i>Porzana carolina</i>
Virginia rail	<i>Rallus limicola</i>

Shorebirds

Spotted sandpiper
Ruddy turnstone
Sanderling
Western sandpiper
Least sandpiper

Actitis macularia
Arenaria interpres
Calidris alba
Calidris mauri
Calidris minutilla

Shorebirds, continued

Willet
Snowy plover
Semipalmated plover
Killdeer
Dunlin
Common snipe
Black-necked stilt
Long-billed dowitcher
Marbled godwit
Long-billed curlew
Red-necked phalarope
Wilson's phalarope
Black-bellied plover
American avocet
Lesser yellowlegs
Greater yellowlegs
Solitary sandpiper

Catoptrophorus semipalmatus
Charadrius alexandrinus
Charadrius semipalmatus
Charadrius vociferus
Clidris alpina
Gallinago gallinago
Himantopus mexicanus
Limnodromus scolopaceus
Limosa fedoa
Numenius americanus
Phalaropus lobatus
Phalaropus tricolor
Pluvialis squatarola
Recurvirostra americana
Tringa flavipes
Tringa melanoleuca
Tringa solitaria

Gulls and Terns

Black tern
California gull
Ring-billed gull
Bonaparte's gull
Forster's tern
Common tern

Chlidonias niger
Larus californicus
Larus delawarensis
Larus philadelphia
Sterna forsteri
Sterna hirundo

Doves

Rock dove
Mourning dove

Columba livia
Zenaida macroura

Cuckoos

Greater roadrunner

Geococcyx californianus

Owls

Long-eared owl
Burrowing owl
Great horned owl
Common barn owl

Asio otus
Athene cunicularia
Bubo virginianus
Tyto alba

Goatsuckers

Lesser nighthawk
Common poorwill

Chordeiles acutipennis
Phalaenoptilus nuttallii

Swifts

White-throated swift

Aeronautes saxatalis

Hummingbirds

Black-chinned hummingbird
Costa's hummingbird
Broad-tailed hummingbird
Rufous hummingbird

Archilochus alexandri
Calypte costae
Selasphorus platycercus
Selasphorus rufus

Kingfishers

Belted kingfisher

Ceryle alcyon

Woodpeckers

Northern flicker
Ladder-backed woodpecker
Red-naped sapsucker

Colaptes auratus
Picoides scalaris
Sphyrapicus nuchalis

Flycatchers

Olive-sided flycatcher
Wood-pewee
Dusky flycatcher
Cordilleran flycatcher
Willow flycatcher
Gray flycatcher
Ash-throated flycatcher
Brown-crested flycatcher
Black phoebe
Say's phoebe
Western kingbird

Contopus borealis
Contopus sordidulus
Empidonax oberholseri
Empidonax occidentalis
Empidonax traillii
Empidonax wrightii
Myiarchus cinerascens
Myiarchus tyrannulus
Sayornis nigricans
Sayornis saya
Tyrannus verticalis

Shrikes

Northern shrike
Loggerhead shrike

Lanius excubitor
Lanius ludovicianus

Vireos

Bell's vireo
Plumbeousvireo
Warbling vireo

Vireo bellii
Vireo solitarius
Vireo gilvus

Jays and Crows

Western scrub jay
Common raven

Aphelocoma californica
Corvus corax

Larks

Horned lark *Eremophila alpestris*

Swallows

Cliff swallow *Hirundo pyrrhonota*
 Barn swallow *Hirundo rustica*
 Bank swallow *Riparia riparia*
 Northern rough-winged swallow *Stelgidopteryx serripennis*
 Tree swallow *Tachycineta bicolor*
 Violet-green swallow *Tachycineta thalassina*

Verdins and Bushtits

Bushtit *Psaltriparus minimus*
 Verdin *Auriparus flaviceps*

Wrens

Marsh wren *Cistothorus palustris*
 Rock wren *Salpinctes obsoletus*
 Bewick's wren *Thryomanes bewickii*
 House wren *Troglodytes aedon*

Kinglets and Gnatcatchers

Golden-crowned kinglet *Regulus satrapa*
 Ruby-crowned kinglet *Regulus calendula*
 Blue-gray gnatcatcher *Polioptila caerulea*

Thrushes

Hermit thrush *Catharus guttatus*
 Swainson's thrush *Catharus ustulatus*
 Townsend's solitaire *Myadestes townsendi*
 Mountain bluebird *Sialia currucoides*
 American robin *Turdus migratorius*

Mockingbirds and Thrashers

Northern mockingbird *Mimus polyglottos*
 Sage thrasher *Oreoscoptes montanus*
 Crissal thrasher *Toxostoma crissale*
 Le Conte's thrasher *Toxostoma lecontei*

Pipits

American pipit *Anthus spinoletta*

Starlings

European starling *Sturnus vulgaris*

Waxwings

Cedar waxwing *Bombycilla cedrorum*

Silky Flycatchers

Phainopepla *Phainopepla nitens*

Warblers

Yellow-rumped warbler *Dendroica coronata*
 Black-throated gray warbler *Dendroica nigrescens*
 Yellow warbler *Dendroica petechia*
 Townsend's warbler *Dendroica townsendi*
 Common yellowthroat *Geothlypis trichas*
 Yellow-breasted chat *Icteria virens*
 Macgillivray's warbler *Oporornis tolmiei*
 Orange-crowned warbler *Vermivora celata*
 Lucy's warbler *Vermivora luciae*

Warblers, continued

Virginia's warbler *Vermivora virginiae*
 Wilson's warbler *Wilsonia pusilla*

Tanagers

Western tanager *Piranga ludoviciana*

Grosbeaks, Buntings, and Sparrows

Sage sparrow *Amphispiza belli*
 Black-throated sparrow *Amphispiza bilineata*
 Lark sparrow *Chondestes grammacus*
 Dark-eyed junco *Junco hyemalis*
 Song sparrow *Melospiza melodia*
 Lincoln's sparrow *Melospiza lincolni*
 Savannah sparrow *Passerculus sandwichensis*
 Blue grosbeak *Passerina caerulea*
 Lazuli bunting *Passerina amoena*
 Indigo bunting *Passerina cyanea*
 Black-headed grosbeak *Pheucticus melanocephalus*
 Green-tailed towhee *Pipilo chlorurus*
 Spotted towhee *Pipilo maculatus*
 American tree sparrow *Spizella arborea*
 Brewer's sparrow *Spizella breweri*
 Chipping sparrow *Spizella passerina*
 White-crowned sparrow *Zonotrichia leucophrys*

Meadowlarks, Blackbirds, and Orioles

Red-winged blackbird *Agelaius phoeniceus*
 Brewer's blackbird *Euphagus cyanocephalus*
 Bullock's oriole *Icterus bullockii*
 Hooded oriole *Icterus cucullatus*
 Brown-headed cowbird *Molothrus ater*
 Great-tailed grackle *Quiscalus mexicanus*

Meadowlarks, Blackbirds, and Orioles, continued

Western meadowlark

Sturnella neglecta

Yellow-headed blackbird

Xanthocephalus xanthocephalus

Finches

Pine siskin

Carduelis pinus

Lesser goldfinch

Carduelis psaltria

American goldfinch

Carduelis tristis

House finch

Carpodacus mexicanus

Weaver Finches

House sparrow

Passer domesticus

Mammals

Pallid bat	<i>Antrozous pallidus</i>
Spotted bat	<i>Euderma maculatum</i>
Greater western mastiff-bat	<i>Eumops perotis californicus</i>
Allen's big-eared bat	<i>Idionycteris phyllotis</i>
Hoary bat	<i>Lasiurus cinereus</i>
California leaf-nosed bat	<i>Macrotus californicus</i>
California myotis	<i>Myotis californicus</i>
Long-eared myotis	<i>Myotis evotis</i>
Small-footed myotis	<i>Myotis leibii</i>
Fringed myotis	<i>Myotis thysanodes</i>
Cave myotis	<i>Myotis velifer</i>
Long-legged myotis	<i>Myotis volans</i>
Yuma myotis	<i>Myotis yumanensis</i>
Big free-tailed bat	<i>Nyctinomops macrotis</i>
Townshend's big eared bat	<i>Plecotus townsendii</i>
Western pipistrelle	<i>Pipistrellus hesperus</i>
Blacktail jackrabbits	<i>Lepus alleni</i>
Desert cottontail	<i>Sylvilagus auduboni</i>
White-tailed antelope squirrel	<i>Ammospermophilus leucurus</i>
Long-tailed pocket mouse	<i>Chaetodipus formosus</i>
Desert pocket mouse	<i>Chaetodipus penicillatus</i>
Desert kangaroo rat	<i>Dipodomys deserti</i>
Merriam's kangaroo rat	<i>Dipodomys merriami</i>
Ash Meadows montane vole	<i>Microtus montanus nevadensis</i>
House mouse	<i>Mus musculus</i>
Desert wood rat	<i>Neotoma lepida</i>
Southern grasshopper mouse	<i>Onychomys torridus</i>
Little pocket mouse	<i>Perognathus longimembris</i>
Canyon mouse	<i>Peromyscus crinitus</i>
Deer mouse	<i>Peromyscus maniculatus</i>
Western harvest mouse	<i>Reithrodontomys megalotis</i>
Round-tailed ground squirrel	<i>Spermophilus tereticaudus</i>
Botta's pocket gopher	<i>Thomomys bottae</i>
Ringtail	<i>Bassariscus astutus</i>
Coyotes	<i>Canis latrans</i>
Mountain lion	<i>Felis concolor</i>
Bobcat	<i>Felis rufus</i>
American badger	<i>Taxidea taxus</i>
Kit fox	<i>Vulpes macrotis</i>
Mule deer	<i>Odocoileus hemionus</i>
Desert bighorn sheep	<i>Ovis canadensis</i>

Reptiles and Amphibians

Reptiles

Zebra-tailed lizard	<i>Callisaurus draconoides</i>
Western whiptail	<i>Cnemidophorus tigris</i>
Western banded gecko	<i>Coleonyx variegatus</i>
Great Basin collared lizard	<i>Crotaphytus bicinctores</i>
Desert iguana	<i>Dipsosaurus dorsalis</i>
Long-nosed leopard lizard	<i>Gambelia wislizenii</i>
Banded Gila monster	<i>Heloderma suspectum cinctum</i>
Desert horned lizard	<i>Phrynosoma platyrhinos</i>
Chuckwalla	<i>Sauromalus ater</i>
Desert spiny lizard	<i>Sceloporus magister</i>
Long-tailed brush lizard	<i>Urosaurus graciosus</i>
Side-blotched lizard	<i>Uta stansburiana</i>
Desert night lizard	<i>Xantusia vigilis vigilis</i>
Sidewinder	<i>Crotalus cerastes</i>
Speckled rattlesnake	<i>Crotalus mitchellii</i>
Mojave green rattlesnake	<i>Crotalus scutulatus scutulatus</i>
Common kingsnake	<i>Lampropeltis getula</i>
Western threadsnake	<i>Leptotyphlops humilis</i>
Coachwhip snake	<i>Masticophis flagellum</i>
Red coachwhip	<i>Masticophis flagellum piceus</i>
Spotted leaf-nosed snake	<i>Phyllorhynchus decurtatus</i>
Gopher snake	<i>Pituophis catenifer</i>
Great Basin gopher snake	<i>Pituophis catenifer deserticola</i>
Gopher snake	<i>Pituophis melanoleuces</i>
Ground snake	<i>Sonora semiannulata</i>
Western terrestrial garter snake	<i>Thamnophis elegans</i>

Amphibians

Western toad	<i>Bufo boreas</i>
Red-spotted toad	<i>Bufo punctatus</i>
Woodhouse toad	<i>Bufo woodhousii</i>
Bullfrog	<i>Rana catesbeiana</i>
Western chorus frog	<i>Pseudacris regilla</i>

Fish and Invertebrates

Fish

Brown bullhead	<i>Ameiurus nebulosus</i>
Convict cichlid	<i>Cichlasoma nigrofasciatum</i>
Devil's Hole pupfish	<i>Cyprinodon diabolis</i>
Ash Meadows Amargosa pupfish	<i>Cyprinodon nevadensis mionectes</i>
Warm Springs pupfish	<i>Cyprinodon nevadensis pectoralis</i>
Mosquito fish	<i>Gambusia affinis</i>
Green sunfish	<i>Lepomis cyanellus</i>
Largemouth bass	<i>Micropterus salmoides</i>
Black bass	<i>Micropterus salmoides floridanus</i>
Sailfin molly	<i>Poecelia latipinna</i>
Ash Meadows speckled dace	<i>Rhinichthys osculus nevadensis</i>

Invertebrates

Warm Springs naucorid	<i>Ambrysus relictus</i>
Death Valley agabus diving beetle	<i>Agabus rumppi</i>
Ash Meadows alkali skipper	<i>Pseudocopaeodes eunus alinea</i>
Unnamed riffle beetle	<i>Microcylloepus similis</i>
Death Valley june beetle	<i>Polyphylla erratica</i>
Amargosa naucorid	<i>Pelocoris shoshone amargosus</i>
Devil's Hole Warm Spring riffle beetle	<i>Stenelmis calida calida</i>
Ash Meadows pebble snail	<i>Pyrgulopsis erythropoma</i>
Crystal Springs snail	<i>Pyrgulopsis crystalis</i>
Distal-gland springsnail	<i>Pyrgulopsis nanus</i>
Elongate gland springsnail	<i>Pyrgulopsis isolatus</i>
Fairbanks Spring snail	<i>Pyrgulopsis fairbanksensis</i>
Ash Meadows naucorid	<i>Ambrysus amargosus</i>
Median-gland Nevada spring snail	<i>Pyrgulopsis pisteri</i>
Oasis Valley springsnail	<i>Pyrgulopsis micrococcus</i>
Amargosa tryonia	<i>Tryonia variegata</i>
Minute tryonia	<i>Tryonia ericae</i>
Point of Rocks tryonia	<i>Tryonia elata</i>
Sportinggoods tryonia	<i>Tryonia angulata</i>
Virile Amargosa snail	Unknown
Ash Meadows blazing star	<i>Mentzelia leucophylla</i>
Red-rimmed melania	<i>Melanoides tuberculata</i>
Louisiana crayfish	<i>Procambarus clarkii</i>
Honeybee	<i>Apis mellifera</i>
American rubyspot	<i>Hetaerina americana</i>
Ground beetle	<i>Bembidion sp.</i>
Great Basin tiger beetle	<i>Cicindela amargosae</i>
Tiger beetle	<i>Cicindela hemorrhagica</i>
Salt Creek tiger beetle	<i>Cicindela nevadica</i>
Oblique tiger beetle	<i>Cicindela tranquebarica</i>
Lady beetle	<i>Hippodamia convergens</i>
Kiowa dancer	<i>Argia immunda</i>

Invertebrates, continued

Aztec dancer	<i>Argia nahuana</i>
Blue-ringed dancer	<i>Argia sedula</i>
Damsel fly	<i>Argia sp.</i>
Vivid dancer	<i>Argia vivida</i>
Familiar bluet	<i>Enallagma civile</i>
Bluet	<i>Enallagma sp.</i>
Pacific forktail	<i>Ischnura cervula</i>
Desert forktail	<i>Ishnura Barberi</i>
Black-fronted forktail	<i>Ishnura denticollis</i>
California dancer	<i>Argia agrioides</i>
Paiute dancer	<i>Argia alberta</i>
Large water boatmen	<i>Hesperocorixa laevigata</i>
Western malaria mosquito	<i>Anopheles freeborni</i>
Western encephalitis mosquito	<i>Culex tarsalis</i>
Cool-weather mosquito	<i>Culiseta incidens</i>
Winter marsh mosquito	<i>Culiseta inornata</i>
Unnamed riffle beetle	<i>Microcylloepus similis</i>
Carpenter ant	<i>Campanotus sp.</i>
Bicolored pyramid ant,	<i>Dorymyrmex bicolor</i>
Toad bug	<i>Gelastocoris oculatus</i>
Water striders	<i>Gerris gillettei</i>
White-belted ringtail	<i>Erpetogomphus compositus</i>
Gray sanddragon	<i>Progomphus borealis</i>
Field crickets	<i>Gryllus sp.</i>
Sweat bee	<i>Halictus ligatus</i>
Water scavenger family	<i>Tropisternus sublaevis</i>
Microcaddisfly	<i>Hydroptila ajax</i>
Western pondhawk	<i>Erythemis collocata</i>
Comanche skimmer	<i>Libellula comanche</i>
Bleached skimmer	<i>Libellula composita</i>
Widow skimmer	<i>Libellula luctuosa</i>
Flame skimmer	<i>Libellula saturata</i>
Marl pennant	<i>Macrodiplax balteata</i>
Wandering glider	<i>Pachydiplax flavescens</i>
Blue dasher	<i>Pachydiplax longipennis</i>
Variegated meadowhawk	<i>Sympetrum corruptum</i>
Striped meadowhawk	<i>Sympetrum pallipes</i>
Black saddlebags	<i>Tramea lacerata</i>
Red saddlebags	<i>Tramea onusta</i>
Caddisfly	<i>Limnephilus assimilis</i>
Western pigmy blue	<i>Brephidium exile</i>
Ceraunus blue	<i>Hemiargus ceraunus</i>
Reakirt's blue	<i>Hemiargus isola</i>
Marine blue	<i>Leptotes marina</i>
Mantis	<i>Stagmomantis sp.</i>
Water treaders	<i>Mesovelia amoena</i>
Wasp	<i>Chyphotes melaniceps</i>
Velvet ant	<i>Dasymutilla sp.</i>

Invertebrates, continued

Ant	<i>Odontophotopsis melicausa</i>
Velvet ant	<i>Sphaerophthalma blakeii</i>
Velvet ant	<i>Sphaerophthalma helicaon</i>
Creeping water bug	<i>Ambrysus mormon</i>
Warm Springs naucorid	<i>Limnocoris moapensis</i>
Moth	<i>Bulia deducta</i>
Arizona bird-dropping moth	<i>Conochares arizonae</i>
Moth	<i>Heliothis paradoxus</i>
Corn earworm	<i>Heliothis zea</i>
Melipotis moth	<i>Melipotis jucunda</i>
Beet armyworm	<i>Spodoptera exigua</i>
Cabbage looper	<i>Trichoplusia ni</i>
Noctuid moths	<i>Catocala sp.</i>
Sagebrush checkerspot	<i>Chlosyne acastus</i>
Monarch butterfly	<i>Danaus plexippus</i>
Buckeye	<i>Junonia coenia</i>
Damselfly	<i>Coenagrionidae</i>
Stink bug	<i>Chlorocoris sp.</i>
Caddisfly	<i>Chimarra sp.</i>
Desert orangetip	<i>Anthocharis cethura</i>
White butterfly	<i>Pontia sp.</i>
Western white	<i>Pontia occidentalis</i>
Checkered white	<i>Pontia protodice</i>
Arenivaga	<i>sand cockroaches</i>
Spider hunter	<i>Pepsis pallidolimbata</i>
Threadlegged bug	<i>Emesaya brevipennis</i>
Assassin bug	<i>Zelus sp.</i>
Palmer's metalmark	<i>Apodemia palmerii</i>
Sand wasps	<i>Bembix</i>
Blue mud wasp	<i>Chalybion californicum</i>
Wasp	<i>Chlorion</i>
Hornworm	<i>Hyles lineata</i>
Deer flies	<i>Chrysops</i>
Horse flies	<i>Tabanus sp.</i>
Sand obligate beetle	<i>Edrotes ventricosus</i>
Darkling beetle	<i>Eleodes armata</i>
Sooty longwing	<i>Capnobotes fuliginosus</i>
Wasp	<i>Brachycistis timberlakei</i>
Veliid	<i>Microvelia americana</i>
Broad-shouldered water striders	<i>Rhagovelia sp.</i>
Veliid	<i>Rhagovelia distincta</i>
Wasp	<i>Odynerus cinnabarinus</i>
Paper wasp	<i>Polistes sp.</i>
Potter wasp	<i>Eumenes sp.</i>
Giant darner	<i>Anax walsinghami</i>
Blue-eyed darner	<i>Rhionaeshna multicolor</i>
American rubyspot	<i>Heptaerina sp.</i>

Invertebrates, continued

Giant water bugs,
Bird grasshoppers
Grasshopper
Green darner
Giant darner

Belostoma sp.
Schistocerca sp.
Trimerotropis sp.
Anax junius sp.
Anax walsinghami

Species Lists: Desert NWR

Birds

Grebes

Western grebe
Eared grebe
Pied-billed grebe

Aechmophorus occidentalis
Podiceps nigricollis
Podilymbus podiceps

Cormorant

Double-crested cormorant

Phalacrocorax auritus

Bitterns, Herons, Egrets and Ibis

Great egret
Great blue heron
American bittern
Green heron
Snowy egret
Black-crowned night-heron
White-faced ibis

Ardea alba
Ardea herodias
Botaurus lentiginosus
Butorides virescens
Egretta thula
Nycticorax nycticorax
Plegadis chihi

Waterfowl

Wood duck
Northern pintail
American wigeon
Northern shoveler
Green-winged teal
Cinnamon teal
Blue-winged teal
Mallard
Gadwall
Greater white-fronted goose
Lesser scaup
Redhead
Ring-necked duck
Canvasback
Canada goose
Bufflehead
Common goldeneye
Ruddy duck

Aix sponsa
Anas acuta
Anas americana
Anas clypeata
Anas crecca
Anas cyanoptera
Anas discors
Anas platyrhynchos
Anas strepera
Anser albifrons
Aythya affinis
Aythya americana
Aythya collaris
Aythya valisineria
Branta canadensis
Bucephala albeola
Bucephala clangula
Oxyura jamaicensis

Vultures

Turkey vulture

Cathartes aura

Raptors

Cooper's hawk

Accipiter cooperii

Northern goshawk

Accipiter gentilis

Sharp-shinned hawk

Accipiter striatus

Golden eagle

Aquila chrysaetos

Red-tailed hawk

Buteo jamaicensis

Rough-legged hawk

Buteo lagopus

Ferruginous hawk

Buteo regalis

Swainson's hawk

Buteo swainsoni

Northern harrier

Circus cyaneus

Merlin

Falco columbarius

Prairie falcon

Falco mexicanus

Peregrine falcon

Falco peregrinus

American kestrel

Falco sparverius

Bald eagle

Haliaeetus leucocephalus

Osprey

Pandion haliaetus

Gallinaceous Birds

Gambel's quail

Callipepla gambelii

Rails

American coot

Fulica americana

Common moorhen

Gallinula chloropus

Sora

Porzana carolina

Virginia rail

Rallus limicola

Shorebirds

Spotted sandpiper

Actitis macularia

Western sandpiper

Calidris mauri

Least sandpiper

Calidris minutilla

Killdeer

Charadrius vociferus

Common snipe

Gallinago gallinago

Black-necked stilt

Himantopus mexicanus

Long-billed dowitcher

Limnodromus scolopaceus

Marbled godwit

Limosa fedoa

Long-billed curlew

Numenius americanus

Red phalarope

Phalaropus fulicaria

Wilson's phalarope

Phalaropus tricolor

American avocet

Recurvirostra americana

Lesser yellowlegs

Tringa flavipes

Greater yellowlegs

Tringa melanoleuca

Solitary sandpiper

Tringa solitaria

Gulls and Terns

Black tern
California gull
Ring-billed gull
Bonaparte's gull

Chlidonias niger
Larus californicus
Larus delawarensis
Larus philadelphia

Doves

Rock dove
Band-tailed pigeon
Common ground-dove
White-winged dove
Mourning dove

Columba livia
Columba fasciata
Columbina passerina
Zenaida asiatica
Zenaida macroura

Cuckoos

Yellow-billed cuckoo
Greater roadrunner

Coccyzus americanus
Geococcyx californianus

Owls

Northern saw-whet owl
Short-eared owl
Long-eared owl
Burrowing owl
Great horned owl
Northern pygmy-owl
Flammulated owl
Western screech-owl
Barn owl

Aegolius acadicus
Asio flammeus
Asio otus
Athene cunicularia
Bubo virginianus
Glaucidium gnoma
Otus flammeolus
Otus kennicottii
Tyto alba

Goatsuckers

Whip-poor-will
Lesser nighthawk
Common nighthawk
Common poorwill

Caprimulgus vociferus
Chordeiles acutipennis
Chordeiles minor
Phalaenoptilus nuttallii

Swifts

White-throated swift
Vaux's Swift

Aeronautes saxatalis
Chaetura vauxi

Hummingbirds

Black-chinned hummingbird
Anna's hummingbird
Costa's hummingbird
Broad-tailed hummingbird
Rufous hummingbird
Allen's hummingbird
Calliope hummingbird

Archilochus alexandri
Calypte anna
Calypte costae
Selasphorus platycercus
Selasphorus rufus
Selasphorus sasin
Stellula calliope

Kingfisher

Belted kingfisher

*Ceryle alcyon***Woodpeckers**

Northern flicker

Colaptes auratus

Lewis' woodpecker

Melanerpes lewis

Ladder-backed woodpecker

Picoides scalaris

Hairy woodpecker

*Picoides villosus***Woodpeckers, continued**

Red-breasted sapsucker

Sphyrapicus ruber

Williamson's sapsucker

Sphyrapicus thyroideus

Yellow-bellied sapsucker

*Sphyrapicus varius***Flycatchers**

Olive-sided flycatcher

Contopus cooperi

Western wood-pewee

Contopus sordidulus

Western flycatcher

Empidonax difficilis

Hammond's flycatcher

Empidonax hammondi

Dusky flycatcher

Empidonax oberholseri

Willow flycatcher

Empidonax traillii

Gray flycatcher

Empidonax wrightii

Ash-throated flycatcher

Myiarchus cinerascens

Vermilion flycatcher

Pyrocephalus rubinus

Black phoebe

Sayornis nigricans

Say's phoebe

Sayornis saya

Eastern kingbird

Tyrannus tyrannus

Western kingbird

Tyrannus verticalis

Cassin's kingbird

*Tyrannus vociferans***Shrikes**

Loggerhead shrike

*Lanius ludovicianus***Vireos**

Bell's vireo

Vireo bellii

Warbling vireo

Vireo gilvus

Hutton's vireo

Vireo huttoni

Red-eyed vireo

Vireo olivaceus

Solitary vireo

Vireo solitarius

Gray vireo

*Vireo vicinior***Jays, Magpies, and Crows**

Scrub jay

Aphelocoma californica

American crow

Corvus brachyrhynchos

Common raven

Corvus corax

Steller's jay

Cyanocitta stelleri

Pinyon jay

Gymnorhinus cyanocephalus

Clark's nutcracker

Nucifraga columbiana

Larks

Horned lark *Eremophila alpestris*

Swallows

Barn swallow *Hirundo rustica*
 Cliff swallow *Petrochelidon pyrrhonota*
 Bank swallow *Riparia riparia*
 Northern rough-winged swallow *Stelgidopteryx serripennis*
 Tree swallow *Tachycineta bicolor*
 Violet-green swallow *Tachycineta thalassina*

Chickadees and Titmouse

Plain titmouse *Parus inornatus*
 Mountain chickadee *Poecile gambeli*

Verdins

Verdin *Auriparus flaviceps*

Bushtits

Bushtit *Psaltriparus minimus*

Nuthatches

Red-breasted nuthatch *Sitta canadensis*
 White-breasted nuthatch *Sitta carolinensis*
 Pygmy nuthatch *Sitta pygmaea*

Creepers

Brown creeper *Certhia americana*

Wrens

Cactus wren *Campylorhynchus brunneicapillus*
 Canyon wren *Catherpes mexicanus*
 Marsh wren *Cistothorus palustris*
 Rock wren *Salpinctes obsoletus*
 Bewick's wren *Thryomanes bewickii*
 House wren *Troglodytes aedon*
 Winter wren *Troglodytes troglodytes*

Kinglets and Gnatcatchers

Blue-gray gnatcatcher *Polioptila caerulea*
 Black-tailed gnatcatcher *Polioptila melanura*
 Ruby-crowned kinglet *Regulus calendula*
 Golden-crowned kinglet *Regulus satrapa*

Thrushes

Hermit thrush	<i>Catharus guttatus</i>
Swainson's thrush	<i>Catharus ustulatus</i>
Varied thrush	<i>Ixoreus naevius</i>
Townsend's solitaire	<i>Myadestes townsendi</i>
Mountain bluebird	<i>Sialia currucoides</i>
Western bluebird	<i>Sialia mexicana</i>
American robin	<i>Turdus migratorius</i>

Mockingbirds and Thrashers

Northern mockingbird	<i>Mimus polyglottos</i>
Sage thrasher	<i>Oreoscoptes montanus</i>
Bendire's thrasher	<i>Toxostoma bendirei</i>
Crissal thrasher	<i>Toxostoma crissale</i>
Le conte's thrasher	<i>Toxostoma lecontei</i>

Wagtails and Pipits

American pipit	<i>Anthus rubescens</i>
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Waxwings

Cedar waxwing	<i>Bombycilla cedrorum</i>
Bohemian waxwing	<i>Bombycilla garrulus</i>

Phainopepla

Phainopepla	<i>Phainopepla nitens</i>
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Starlings

European starling	<i>Sturnus vulgaris</i>
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Warblers

Blue warbler	<i>Dendroica caerulescens</i>
Yellow-rumped warbler	<i>Dendroica coronata</i>
Grace's warbler	<i>Dendroica graciae</i>
Black-throated gray warbler	<i>Dendroica nigrescens</i>
Hermit warbler	<i>Dendroica occidentalis</i>
Yellow warbler	<i>Dendroica petechia</i>
Townsend's warbler	<i>Dendroica townsendi</i>
Black-throated	<i>Dendroica virens</i>
Common yellowthroat	<i>Geothlypis trichas</i>
Yellow-breasted chat	<i>Icteria virens</i>
Black-and-white warbler	<i>Mniotilta varia</i>
Painted redstart	<i>Myioborus pictus</i>
Macgillivray's warbler	<i>Oporornis tolmiei</i>
Northern parula	<i>Parula americana</i>
Northern waterthrush	<i>Seiurus noveboracensis</i>
American redstart	<i>Setophaga ruticilla</i>
Orange-crowned warbler	<i>Vermivora celata</i>
Lucy's warbler	<i>Vermivora luciae</i>

Warblers, continued

Tennessee warbler	<i>Vermivora peregrina</i>
Nashville warbler	<i>Vermivora ruficapilla</i>
Virginia's warbler	<i>Vermivora virginiae</i>
Wilson's warbler	<i>Wilsonia pusilla</i>

Tanagers

Western tanager	<i>Piranga ludoviciana</i>
Summer tanager	<i>Piranga rubra</i>

Grosbeaks and Buntings

Blue grosbeak	<i>Guiraca caerulea</i>
Lazuli bunting	<i>Passerina amoena</i>
Indigo bunting	<i>Passerina cyanea</i>
Rose-breasted grosbeak	<i>Pheucticus ludovicianus</i>
Black-headed grosbeak	<i>Pheucticus melanocephalus</i>

Towhees and Sparrows

Sage sparrow	<i>Amphispiza belli</i>
Black-throated sparrow	<i>Amphispiza bilineata</i>

Towhees and Sparrows, continued

Lark bunting	<i>Calamospiza melanocorys</i>
Lapland longspur	<i>Calcarius lapponicus</i>
Chestnut-collared longspur	<i>Calcarius ornatus</i>
Lark sparrow	<i>Chondestes grammacus</i>
Dark-eyed junco	<i>Junco hyemalis</i>
Swamp sparrow	<i>Melospiza georgiana</i>
Lincoln's sparrow	<i>Melospiza lincolni</i>
Song sparrow	<i>Melospiza melodia</i>
Savannah sparrow	<i>Passerculus sandwichensis</i>
Fox sparrow	<i>Passerella iliaca</i>
Abert's towhee	<i>Pipilo aberti</i>
Green-tailed towhee	<i>Pipilo chlorurus</i>
Rufous-sided towhee	<i>Pipilo erythrophthalmus</i>
Vesper sparrow	<i>Poocetes gramineus</i>
American tree sparrow	<i>Spizella arborea</i>
Black-chinned sparrow	<i>Spizella atrogularis</i>
Brewer's sparrow	<i>Spizella breweri</i>
Chipping sparrow	<i>Spizella passerina</i>
White-throated sparrow	<i>Zonotrichia albicollis</i>
Golden-crowned sparrow	<i>Zonotrichia atricapilla</i>
White-crowned sparrow	<i>Zonotrichia leucophrys</i>

Blackbirds, Meadowlarks, and Orioles

Red-winged blackbird	<i>Agelaius phoeniceus</i>
Brewer's blackbird	<i>Euphagus cyanocephalus</i>
Bullock's oriole	<i>Icterus bullockii</i>

Blackbirds, Meadowlarks, and Orioles, continued

Hooded oriole	<i>Icterus cucullatus</i>
Scott's oriole	<i>Icterus parisorum</i>
Brown-headed cowbird	<i>Molothrus ater</i>
Great-tailed grackle	<i>Quiscalus mexicanus</i>
Western meadowlark	<i>Sturnella neglecta</i>
Yellow-headed blackbird	<i>Xanthocephalus xanthocephalus</i>

Finches

Pine siskin	<i>Carduelis pinus</i>
Lesser goldfinch	<i>Carduelis psaltria</i>
American goldfinch	<i>Carduelis tristis</i>
Cassin's finch	<i>Carpodacus cassinii</i>
House finch	<i>Carpodacus mexicanus</i>
Evening grosbeak	<i>Coccothraustes vespertinus</i>
Red crossbill	<i>Loxia curvirostra</i>

Weaver Finches

House sparrow	<i>Passer domesticus</i>
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Mammals

Spotted bat	<i>Euderma maculatum</i>
Greater western mastiff-bat	<i>Eumops perotis californicus</i>
Allen's big-eared bat	<i>Idionycteris phyllotis</i>
California leaf-nosed bat	<i>Macrotus californicus</i>
Western small-footed myotis	<i>Myotis ciliolabrum</i>
Long-eared myotis	<i>Myotis evotis</i>
Small-footed myotis	<i>Myotis Leibii</i>
Fringed myotis	<i>Myotis thysanodes</i>
Cave myotis	<i>Myotis velifer</i>
Long-legged Myotis	<i>Myotis volans</i>
Long-legged myotis	<i>Myotis volans</i>
Yuma myotis	<i>Myotis yumanensis</i>
Big free-tailed bat	<i>Nyctinomops macrotis</i>
Townsend's big-eared bat	<i>Plecotus townsendii</i>
Blacktail jackrabbit	<i>Lepus alleni</i>
Desert cottontail	<i>Sylvilagus auduboni</i>
Whitetail antelope squirrel	<i>Ammospermophilus leucurus</i>
Merriam kangaroo rat	<i>Dipodomys merriami</i>
Cliff chipmunk	<i>Neotamias dorsalis</i>
Hidden Forest Uinta chipmunk	<i>Neotamias umbrinus nevadensis</i>
Desert woodrat	<i>Neotoma lepida</i>
Deer mouse	<i>Peromyscus maniculatus</i>
Valley pocket gopher	<i>Thomomys bottae</i>
Coyote	<i>Canis lutrans</i>
Mountain lion	<i>Felis concolor</i>
Bobcat	<i>Felis rufus</i>
Badger	<i>Taxidea taxus</i>
Gray fox	<i>Urocyon cinereoargenteus</i>
Kit fox	<i>Vulpes macrotis</i>
Pronghorn antelope	<i>Antilocapra americanus</i>
Mule deer	<i>Odocoileus hemionus</i>
Desert bighorn sheep	<i>Ovis canadensis</i>

Reptiles and Amphibians

Reptiles

Desert tortoise
Red-eared turtle

Gopherus agassizii
Trachemys scripta

Zebra-tailed lizard
Western whiptail lizard
Collared lizard
Leopard lizard
Desert horned lizard
Banded gila monster
Chuckwalla
Desert spiny lizard
Side-blotched lizard

Callisaurus draconoides
Cnemidophorus tigris
Crotaphytus collaris
Gambelia wislizenii
Genus *Phrynosoma*
Heloderma suspectum suspectum
Sauromalus obesus
Sceloporus magister
Uta stansburiana

Coachwhip
Red racer
Gopher snake

Masticophis flagellum
Masticophis flagellum piceus
Pituophis melanoleucus

Amphibians

Bullfrog
Pacific tree frog

Rana catesbeiana
Hyla regilla

Fish and Invertebrates

Fish

Carp
Goldfish
Pahrump poolfish

Cyprinus carpio
Carassius auratus
Empetrichthys latos

Invertebrates

Nevada admiral
Louisiana crayfish
Corn Creek springsnail
Southeastern Nevada springsnail

Limenitis weidemeyerii nevadae
Procambarus clarkii
Pyrgulopsis fausta
Pyrgulopsis turbatrix

Species Lists: Moapa Valley NWR

Birds

Bitterns and Ibis

Least bittern
White-faced ibis

Ixobrychus exilis
Plegadis chihi

Vultures

Turkey vulture

Cathartes aura

Raptors

Cooper's hawk
Sharp-shinned hawk
Red-tailed hawk
Red-shouldered hawk
Ferruginous hawk
Common black-hawk
American kestrel
Mississippi kite

Accipiter cooperii
Accipiter striatus
Buteo jamaicensis
Buteo lineatus
Buteo regalis
Buteogallus anthracinus
Falco sparverius
Ictinia mississippiensis

Rails

Sandhill crane
Yuma clapper rail

Grus canadensis
Rallus longirostris yumanensis

Gulls and Terns

Black tern

Chlidonias niger

Cuckoos

Western yellow-billed cuckoo

Coccyzus americanus

Owls

Western burrowing owl

Athene cunicularia hypugea

Hummingbirds

Black-chinned hummingbird

Archilochus alexandri

Flycatchers

Olive-sided flycatcher
Southwestern willow flycatcher
Gray flycatcher
Ash-throated flycatcher

Contopus cooperi
Empidonax traillii extimus
Empidonax wrightii
Myiarchus cinerascens

Flycatchers, continued

Vermilion flycatcher
Black phoebe
Western kingbird

Pyrocephalus rubinus
Sayornis nigricans
Tyrannus verticalis

Shrikes

Loggerhead shrike

Lanius ludovicianus

Vireos

Arizona Bell's vireo

Vireo bellii arizone

Wrens

Marsh wren

Cistothorus palustris

Thrashers

Crissal thrasher

Toxostoma crissale

Pipits

American pipit

Anthus rubescens

Phainopepla

Phainopepla

Phainopepla nitens

Warblers

Yellow warbler
Yellow-breasted chat
Lucy's warbler
Orange-crowned warbler

Dendroica petechia
Icteria virens
Vermivora luciae
Vermivora celata

Tanagers

Summer tanager

Piranga rubra

Grosbeaks and Buntings

Blue grosbeak
Indigo bunting

Guiraca caerulea
Passerina cyanea

Blackbirds, Meadowlarks, and Orioles

Bullock's oriole
Hooded oriole

Icterus bullockii
Icterus cucullatus

Finches

House finch

Carpodacus mexicanus

Mammals

Pallid bat	<i>Antrozous pallidus</i>
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>
Big brown bat	<i>Eptesicus fuscus</i>
Spotted bat	<i>Euderma maculatum</i>
Greater western mastiff-bat	<i>Eumops perotis californicus</i>
Allen's big-eared bat	<i>Idionycteris phyllotis</i>
Yellow bat	<i>Lasiurus xanthinus</i>
California leaf-nosed bat	<i>Macrotus californicus</i>
Long-eared myotis	<i>Myotis evotis</i>
Small-footed myotis	<i>Myotis leibii</i>
Fringed myotis	<i>Myotis thysanodes</i>
Cave myotis	<i>Myotis velifer</i>
Long-legged myotis	<i>Myotis volans</i>
Yuma myotis	<i>Myotis yumanensis</i>
Big free-tailed bat	<i>Nyctinomops macrotis</i>
Western pipistrelle	<i>Pipistrellus hesperus</i>
Desert cottontail	<i>Sylvilagus audubonii</i>
Desert pocket mouse	<i>Chaetodipus penicillatus</i>
Ringtail	<i>Bassariscus astutus</i>
Spotted skunk	<i>Spilogale gracilis</i>
Kit fox	<i>Vulpes macrotis</i>

Reptiles and Amphibians

Reptiles

Soft-shelled turtle

Apalone spinifera

Desert tortoise

Gopherus agassizii

Desert collard lizard

Crotaphytus collaris

Desert iguana

Dipsosaurus dorsalis

Banded Gila monster

Heloderma suspectum cinctum

Chuckwalla

Sauromalus ater

Amphibians

Southwestern toad

Bufo microscaphus

Red-spotted toad

Bufo punctatus

Fowler's toad

Bufo woodhousii

Tree frog

Hyla regilla

Bullfrog

Rana catesbeiana

Fish and Invertebrates

Fish

Moapa White River springfish
Mosquitofish
Virgin River chub
Moapa dace
Tilapia
Shortfin mollies
Moapa speckled dace

Crenichthys baileyi moapae
Gambusia affinis
Gila seminuda
Moapa coriacea
Oreochromis aurea
Poecilia mexicana
Rhinichthys osculus moapae

Invertebrates

Creeping water bug
MacNeil sootywing skipper
Warm Springs naucorid
Moapa riffle beetle
Amargosa naucorid
Shoshone naucorid
Moapa pebblesnail
Moapa Valley springsnail
Moapa water strider
Moapa Warm Spring riffle beetle
Grated tryponia
Moapa naucorid

Ambrysus mormon
Hesperopsis graciellae
Limnocoris moapensis
Microcyllloepus moapus
Pelocoris shoshone amargosus
Pelocoris shoshone shoshone
Pyrgulopsis avernalis
Pyrgulopsis carinifera
Rhagovelia becki
Stenelmis moapa
Tryonia clathrata
Usingerina moapensis

Species Lists: Pahranaagat NWR

Birds

Loons

Common loon	<i>Gavia immer</i>
Pacific loon	<i>Gavia pacifica</i>
Red-throated loon	<i>Gavia stellata</i>

Grebes

Clark's grebe	<i>Aechmophorus clarkii</i>
Western grebe	<i>Aechmophorus occidentalis</i>
Horned grebe	<i>Podiceps auritus</i>
Red-necked grebe	<i>Podiceps grisegena</i>
Eared grebe	<i>Podiceps nigricollis</i>
Pied-billed grebe	<i>Podilymbus podiceps</i>

Pelicans and Cormorants

American white pelican	<i>Pelecanus erythrorhynchos</i>
Double-crested cormorant	<i>Phalacrocorax auritus</i>

Bitterns, Herons, and Ibises

Great blue heron	<i>Ardea herodias</i>
Great egret	<i>Ardea alba</i>
American bittern	<i>Botaurus lentiginosus</i>
Cattle egret	<i>Bubulcus ibis</i>
Green heron	<i>Butorides virescens</i>
Little blue heron	<i>Egretta caerulea</i>
Reddish egret	<i>Egretta rufescens</i>
Snowy egret	<i>Egretta thula</i>
Least bittern	<i>Ixobrychus exilis</i>
Wood stork	<i>Mycteria americana</i>
Black-crowned night-heron	<i>Nycticorax nycticorax</i>
Roseate spoonbill	<i>Platalea ajaja</i>
White-faced ibis	<i>Plegadis chihi</i>

Waterfowl

Wood duck	<i>Aix sponsa</i>
Northern pintail	<i>Anas acuta</i>
American wigeon	<i>Anas americana</i>

Waterfowl, continued

Northern shoveler	<i>Anas clypeata</i>
Green-winged teal	<i>Anas crecca</i>
Cinnamon teal	<i>Anas cyanoptera</i>

Waterfowl, continued

Blue-winged teal	<i>Anas discors</i>
Eurasian wigeon	<i>Anas penelope</i>
Mallard	<i>Anas platyrhynchos</i>
Gadwall	<i>Anas strepera</i>
Greater white-fronted goose	<i>Anser albifrons</i>
Lesser scaup	<i>Aythya affinis</i>
Redhead	<i>Aythya americana</i>
Ring-necked duck	<i>Aythya collaris</i>
Canvasback	<i>Aythya valisineria</i>
Canada goose	<i>Branta canadensis</i>
Cackling goose	<i>Branta hutchinsii</i>
Bufflehead	<i>Bucephala albeola</i>
Common goldeneye	<i>Bucephala clangula</i>
Snow goose	<i>Chen caerulescens</i>
Ross' goose	<i>Chen rossii</i>
Tundra swan	<i>Cygnus columbianus</i>
Fulvous whistling-duck	<i>Dendrocygna bicolor</i>
Hooded merganser	<i>Lophodytes cucullatus</i>
Surf scoter	<i>Melanitta perspicillata</i>
Common merganser	<i>Mergus merganser</i>
Red-breasted merganser	<i>Mergus serrator</i>
Ruddy duck	<i>Oxyura jamaicensis</i>

Vulture

Turkey vulture	<i>Cathartes aura</i>
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Raptors

Cooper's hawk	<i>Accipiter cooperii</i>
Sharp-shinned hawk	<i>Accipiter striatus</i>
Golden eagle	<i>Aquila chrysaetos</i>
Zone-tailed hawk	<i>Buteo albonotatus</i>
Red-tailed hawk	<i>Buteo jamaicensis</i>
Rough-legged hawk	<i>Buteo lagopus</i>
Red-shouldered hawk	<i>Buteo lineatus</i>
Ferruginous hawk	<i>Buteo regalis</i>
Swainson's hawk	<i>Buteo swainsoni</i>
Common black hawk	<i>Buteogallus anthracinus</i>
Crested caracara	<i>Caracara cheriway</i>
Northern harrier	<i>Circus cyaneus</i>
White-tailed kite	<i>Elanus leucurus</i>

Raptors, continued

Merlin	<i>Falco columbarius</i>
Prairie falcon	<i>Falco mexicanus</i>
Peregrine falcon	<i>Falco peregrinus</i>
American kestrel	<i>Falco sparverius</i>
Bald eagle	<i>Haliaeetus leucocephalus</i>
Osprey	<i>Pandion haliaetus</i>
Harris hawk	<i>Parabuteo unicinctus</i>

Gallinaceous Birds

Gambel's quail	<i>Callipepla gambelii</i>
Ring-necked pheasant	<i>Phasianus colchicus</i>

Rails

American coot	<i>Fulica americana</i>
Common moorhen	<i>Gallinula chloropus</i>
Sandhill crane	<i>Grus canadensis</i>
Sora	<i>Porzana carolina</i>
Virginia rail	<i>Rallus limicola</i>

Shorebirds

Spotted sandpiper	<i>Actitis macularia</i>
Sanderling	<i>Calidris alba</i>
Baird's sandpiper	<i>Calidris bairdii</i>
Western sandpiper	<i>Calidris mauri</i>
Pectoral sandpiper	<i>Calidris melanotos</i>
Least sandpiper	<i>Calidris minutilla</i>
Semipalmated sandpiper	<i>Calidris pusilla</i>
Willet	<i>Catoptrophorus semipalmatus</i>
Semipalmated plover	<i>Charadrius semipalmatus</i>
Killdeer	<i>Charadrius vociferus</i>
Wilson's snipe	<i>Gallinago gallinago</i>
Black-necked stilt	<i>Himantopus mexicanus</i>
Short-billed dowitcher	<i>Limnodromus griseus</i>
Long-billed dowitcher	<i>Limnodromus scolopaceus</i>
Marbled godwit	<i>Limosa fedoa</i>
Long-billed curlew	<i>Numenius americanus</i>
Red-necked phalarope	<i>Phalaropus lobatus</i>
Wilson's phalarope	<i>Phalaropus tricolor</i>
Black-bellied plover	<i>Pluvialis squatarola</i>
American avocet	<i>Recurvirostra americana</i>
Lesser yellowlegs	<i>Tringa flavipes</i>
Greater yellowlegs	<i>Tringa melanoleuca</i>
Solitary sandpiper	<i>Tringa solitaria</i>

Gulls and Terns

Black tern	<i>Chlidonias niger</i>
Caspian tern	<i>Hydroprogne caspia</i>
Herring gull	<i>Larus argentatus</i>
California gull	<i>Larus californicus</i>
Mew gull	<i>Larus canus</i>
Ring-billed gull	<i>Larus delawarensis</i>
Bonaparte's gull	<i>Larus philadelphia</i>
Franklin's gull	<i>Larus pipixcan</i>
Forster's tern	<i>Sterna forsteri</i>
Common tern	<i>Sterna hirundo</i>
Sabine's gull	<i>Xema sabini</i>

Doves

Band-tailed pigeon	<i>Columba fasciata</i>
Rock dove	<i>Columba livia</i>
Common ground-dove	<i>Columbina passerina</i>
Eurasian collared-dove	<i>Streptopelia decaocto</i>
White-winged dove	<i>Zenaida asiatica</i>
Mourning dove	<i>Zenaida macroura</i>

Cuckoos

Yellow-billed cuckoo	<i>Coccyzus americanus</i>
Greater roadrunner	<i>Geococcyx californianus</i>

Owls

Short-eared owl	<i>Asio flammeus</i>
Long-eared owl	<i>Asio otus</i>
Burrowing owl	<i>Athene cunicularia</i>
Great horned owl	<i>Bubo virginianus</i>
Western screech-owl	<i>Otus kennicottii</i>
Barn owl	<i>Tyto alba</i>

Goatsuckers

Lesser nighthawk	<i>Chordeiles acutipennis</i>
Common nighthawk	<i>Chordeiles minor</i>
Common poorwill	<i>Phalaenoptilus nuttallii</i>

Kingfisher

Belted kingfisher	<i>Ceryle alcyon</i>
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Swift

White-throated swift	<i>Aeronautes saxatalis</i>
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Hummingbirds

Black-chinned hummingbird	<i>Archilochus alexandri</i>
Anna's hummingbird	<i>Calypte anna</i>
Costa's hummingbird	<i>Calypte costae</i>

Hummingbirds, continued

Broad-tailed hummingbird	<i>Selasphorus platycercus</i>
Rufous hummingbird	<i>Selasphorus rufus</i>
Calliope hummingbird	<i>Stellula calliope</i>

Woodpeckers

Northern flicker	<i>Colaptes auratus</i>
Acorn woodpecker	<i>Melanerpes formicivorus</i>
Lewis' woodpecker	<i>Melanerpes lewis</i>
Downy woodpecker	<i>Picoides pubescens</i>
Ladder-backed woodpecker	<i>Picoides scalaris</i>
Hairy woodpecker	<i>Picoides villosus</i>
Red-naped sapsucker	<i>Sphyrapicus nuchalis</i>

Flycatchers

Northern beardless tyrannulet	<i>Camptostoma imberbe</i>
Olive-sided flycatcher	<i>Contopus cooperi</i>
Western wood-pewee	<i>Contopus sordidulus</i>
Western flycatcher	<i>Empidonax difficilis</i>
Yellow-bellied flycatcher	<i>Empidonax flaviventris</i>
Hammond's flycatcher	<i>Empidonax hammondi</i>
Dusky flycatcher	<i>Empidonax oberholseri</i>
Cordilleran flycatcher	<i>Empidonax occidentalis</i>
Trill's willow flycatcher	<i>Empidonax traillii</i>
Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>
Gray flycatcher	<i>Empidonax wrightii</i>
Ash-throated flycatcher	<i>Myiarchus cinerascens</i>
Brown-crested flycatcher	<i>Myiarchus tyrannulus</i>
Phainopepla	<i>Phainopepla nitens</i>
Vermilion flycatcher	<i>Pyrocephalus rubinus</i>
Black phoebe	<i>Sayornis nigricans</i>
Say's phoebe	<i>Sayornis saya</i>
Tropical kingbird	<i>Tyrannus melancholicus</i>
Eastern kingbird	<i>Tyrannus tyrannus</i>
Western kingbird	<i>Tyrannus verticalis</i>
Cassin's kingbird	<i>Tyrannus vociferans</i>

Shrikes

Northern Shrike	<i>Lanius excubitor</i>
Loggerhead Shrike	<i>Lanius ludovicianus</i>

Vireos

Bell's vireo	<i>Vireo bellii</i>
Cassin's vireo	<i>Vireo cassinii</i>
Warbling vireo	<i>Vireo gilvus</i>
White-eyed vireo	<i>Vireo griseus</i>
Plumbeous vireo	<i>Vireo plumbeus</i>

Jays and Crows

Scrub jay	<i>Aphelocoma californica</i>
American crow	<i>Corvus brachyrhynchos</i>
Steller's jay	<i>Cyanocitta stelleri</i>
Pinyon jay	<i>Gymnorhinus cyanocephalus</i>
Common raven	<i>Corvus Corax</i>

Lark

Horned lark	<i>Eremophila alpestris</i>
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Swallows

Cliff swallow	<i>Hirundo pyrrhonota</i>
Barn swallow	<i>Hirundo rustica</i>
Bank swallow	<i>Riparia riparia</i>
Northern rough-winged swallow	<i>Stelgidopteryx serripennis</i>
Tree swallow	<i>Tachycineta bicolor</i>
Violet-green swallow	<i>Tachycineta thalassina</i>

Chickadees

Black capped chickadee	<i>Poecile atricapillus</i>
Mountain chickadee	<i>Poecile gambeli</i>

Verdins

Verdin	<i>Auriparus flaviceps</i>
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Bushtit

Common bushtit	<i>Psaltriparus minimus</i>
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Creepers

Brown creeper	<i>Certhia americana</i>
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Wrens

Cactus wren	<i>Campylorhynchus brunneicapillus</i>
Canyon wren	<i>Catherpes mexicanus</i>
Marsh wren	<i>Cistothorus palustris</i>
Rock wren	<i>Salpinctes obsoletus</i>
Bewick's wren	<i>Thryomanes bewickii</i>
House wren	<i>Troglodytes aedon</i>
Winter wren	<i>Troglodytes troglodytes</i>

Kinglets and Gnatcatchers

Blue-gray gnatcatcher	<i>Poliophtila caerulea</i>
Ruby-crowned kinglet	<i>Regulus calendula</i>
Golden-crowned kinglet	<i>Regulus satrapa</i>

Thrushes

Wood thrush	<i>Hylocichla mustelina</i>
Varied thrush	<i>Ixoreus naevius</i>
Mountain bluebird	<i>Sialia currucoides</i>
Western bluebird	<i>Sialia mexicana</i>
American robin	<i>Turdus migratorius</i>

Mockingbirds and Thrashers

Gray catbird	<i>Dumetella carolinensis</i>
Northern mockingbird	<i>Mimus polyglottos</i>
Sage thrasher	<i>Oreoscoptes montanus</i>
Crissal thrasher	<i>Toxostroma crissale</i>
Le conte's thrasher	<i>Toxostroma lecontei</i>

Pipits

American pipit	<i>Anthus rubescens</i>
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Waxwings

Cedar waxwing	<i>Bombycilla cedrorum</i>
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Starlings

European starling	<i>Sturnus vulgaris</i>
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Warblers

Common yellowthroat	<i>Ceothlypis trichas</i>
Bay-breasted warbler	<i>Dendroica castanea</i>
Yellow-rumped warbler	<i>Dendroica coronata</i>
Black-throated gray warbler	<i>Dendroica nigrescens</i>
Yellow warbler	<i>Dendroica petechia</i>
Worm-eating warbler	<i>Helmitheros vermivora</i>
Yellow-breasted chat	<i>Icteria virens</i>
Macgillivrays warbler	<i>Oporornis tolmiei</i>
Northern parula	<i>Parula americana</i>
Prothonotary warbler	<i>Protonotaria citrea</i>
Northern waterthrush	<i>Seiurus noveboracensis</i>
Orange-crowned warbler	<i>Vermivora celata</i>
Hooded warbler	<i>Wilsonia citrina</i>
Willsons warbler	<i>Wilsonia pusilla</i>

Tanagers

Western tanager	<i>Piranga ludoviciana</i>
Summer tanager	<i>Piranga rubra</i>

Grosbeaks and Buntings

Blue grosbeak	<i>Buiranca caerulea</i>
Lazuli bunting	<i>Passerina amoena</i>
Indigo bunting	<i>Passerina cyanea</i>

Grosbeaks and Buntings, continued

Black-headed grosbeak *Pheucticus melanocephalus*

Towhees and Sparrows

Rufus-crowned sparrow *Aimophila ruficeps*
 Sage sparrow *Amphispiza belli*
 Black-throated sparrow *Amphispiza bilineata*
 Lark sparrow *Chondestes grammacus*
 Dark-eyed junco *Junco hyemalis*
 Lincoln's sparrow *Melospiza lincolni*
 Song sparrow *Melospiza melodia*
 Savannah sparrow *Passerculus sandwichensis*
 Fox sparrow *Passerelia iliaca*
 Green-tailed towhee *Pipilo chlorurus*
 Spotted towhee *Pipilo maculatus*
 Vesper sparrow *Poocetes gramineus*
 Brewer's sparrow *Spizella breweri*
 Chipping sparrow *Spizella passerina*
 Golden-crowned sparrow *Zonotrichia atricapilla*
 White crown sparrow *Zonotrichia leucophrys*
 Harris's sparrow *Zonotrichia querula*

Blackbirds, Meadowlarks, and Orioles

Red-winged blackbird *Agelaius phoeniceus*
 Rusty blackbird *Euphagus carolinus*

Blackbirds, Meadowlarks, and Orioles, continued

Brewer's blackbird *Euphagus cyanocephalus*
 Bullock's oriole *Icterus bullockii*
 Hooded oriole *Icterus cucullatus*
 Scott's oriole *Icterus parisorum*
 Brown-headed cowbird *Molothrus ater*
 Great-tailed grackle *Quiscalus mexicanus*
 Western meadowlark *Sturnella neglecta*
 Yellow-headed blackbird *Xanthocephalus xanthocephalus*

Finches

Pine siskin *Carduelis pinus*
 Lesser goldfinch *Carduelis psaltria*
 American goldfinch *Carduelis tristis*
 Cassin's finch *Carpodacus cassinii*
 House finch *Carpodacus mexicanus*

Weaver Finch

House sparrow *Passer domesticus*

Mammals

Gray shrew	<i>Notiosorex crawfordi</i>
Pallid bat	<i>Antrozous pallidus</i>
Big brown bat	<i>Eptesicus fuscus</i>
Spotted bat	<i>Euderma maculatum</i>
Greater western mastiff-bat	<i>Eumops perotis californicus</i>
Allen's big-eared bat	<i>Idionycteris phyllotis</i>
Silver-haired bat	<i>Lasionycteris noctivagans</i>
Western red bat	<i>Lasiurus blossevillii</i>
Big brown bat	<i>Lasiurus borealis</i>
Hoary bat	<i>Lasiurus cinereus</i>
California leaf-nosed bat	<i>Macrotus californicus</i>
California myotis	<i>Myotis californicus</i>
Western small-footed myotis	<i>Myotis ciliolabrum</i>
Long-eared myotis	<i>Myotis evotis</i>
Small-footed myotis	<i>Myotis leibii</i>
Fringed myotis	<i>Myotis thysanodes</i>
Cave myotis	<i>Myotis velifer</i>
Long-legged myotis	<i>Myotis volans</i>
Yuma myotis	<i>Myotis yumanensis</i>
Big free-tailed bat	<i>Nyctinomops macrotis</i>
Western pipistrel	<i>Pipistrellus hesperus</i>
Townsend big-eared bat	<i>Plecotus townsendii</i>
Brazilian free-tailed bat	<i>Tadarida brasiliensis</i>
Pygmy rabbit	<i>Brachylagus idahoensis</i>
Black-tailed jackrabbit	<i>Lepus californicus</i>
Desert cottontail rabbit	<i>Sylvilagus audubonii</i>
White-tailed antelope squirrel	<i>Ammospermophilus leucurus</i>
Desert kangaroo rat	<i>Caloprymnus campestris</i>
Desert pocket mouse	<i>Chaetodipus penicillatus</i>
Merriam kangaroo rat	<i>Dipodomys merriami</i>
Desert Valley kangaroo mouse	<i>Microdipodops megacephalus albiventer</i>
Pahranagat Valley montane vole	<i>Microtus montanus fucosus</i>
House mouse	<i>Mus musculus</i>
Desert woodrat	<i>Neotoma lepida</i>
Muskrat	<i>Ondatra zibethicus</i>
Southern grasshopper mouse	<i>Onychomys torridus</i>
Deer mouse	<i>Peromyscus maniculatus</i>
Western harvest mouse	<i>Reithrodontomys megalotis</i>
Rock squirrel	<i>Spermophilus variegatus</i>
Valley pocket gopher	<i>Thomomys bottae</i>
Ringtail	<i>Bassariscus astutus</i>
Coyote	<i>Canis latrans</i>
Mountain lion	<i>Felis concolor</i>
Bobcat	<i>Felis rufus</i>

Mammals, continued

Striped skunk
Long tailed weasel
Raccoon
Badger
Gray fox
Kit fox

Mephitis mephitis
Mustela frenata
Procyon lotor
Taxidea taxus
Urocyon cinereoargenteus
Vulpes macrotis

Pronghorned antelope
Elk
Mule deer

Antilocapra americana
Cervus elaphus
Odocoileus hemionus

Reptiles and Amphibians

Reptiles

Desert tortoise	<i>Gopherus agassizii</i>
Zebra-tailed lizard	<i>Callisaurus draconoides</i>
Western whiptail lizard	<i>Cnemidophorus tigris</i>
Western banded gecko	<i>Coleonyx variegatus</i>
Desert collard lizard	<i>Crotaphytus collaris</i>
Desert iguana	<i>Dispsosaurus dorsalis</i>
Western skink	<i>Eumeces skiltonianus</i>
Long-nosed leopard lizard	<i>Gambelia wislizenii</i>
Banded Gila monster	<i>Heloderma suspectum cinctum</i>
Desert horned lizard	<i>Phrynosoma platyrhinos</i>
Chuckwalla	<i>Sauromalus ater</i>
Desert spiny lizard	<i>Sceloporus magister</i>
Side-blotched lizard	<i>Uta stansburiana</i>
Desert night lizard	<i>Xantusia vigilis</i>
Night snake	<i>Hypsiglena torquata</i>
Common kingsnake	<i>Lampropeltis getula</i>
Coachwhip	<i>Masticophis flagellum</i>
Striped whipsnake	<i>Masticophis taeniatus</i>
Gophersnake	<i>Pituophis catenifer</i>
Long-nosed snake	<i>Rhinocheilus lecontei</i>
Western patch-nosed snake	<i>Salvadora hexalepis</i>
Sidewinder	<i>Crotalus cerastes</i>
Great basin rattlesnake	<i>Crotalus oreganus lutosus</i>
Mojave rattlesnake	<i>Crotalus scutulatus</i>
Ground snake	<i>Sonora semiannulata</i>

Amphibians

Western toad	<i>Bufo boreas</i>
Great plains toad	<i>Bufo cognatus</i>
Red-spotted toad	<i>Bufo punctatus</i>
Woodhouse toad	<i>Bufo woodhousii</i>
Pacific tree frog	<i>Hyla regilla</i>
Bullfrog	<i>Rana catesbeiana</i>
Northern leopard frog	<i>Rana pipiens</i>
Tiger salamander	<i>Ambystoma tigrinum</i>

Fish and Invertebrates

Fish

Bullhead catfish	<i>Ameiurus</i> spp.
Grass carp	<i>Ctenopharyngodon idella</i>
Pahrnagat spinedace	<i>Lepidomeda altivelis</i>
Large-mouthed bass	<i>Micropterus salmoides</i>
Crappie	<i>Pomoxis</i> spp.
Pahrnagat speckled dace	<i>Rhinichthys osculus velifer</i>

Invertebrates

Shoshone naucorid	<i>Pelocoris shoshone shoshone</i>
Pahrnagat pebblesnail	<i>Pyrgulopsis merriami</i>
Moapa Warm Spring riffle beetle	<i>Stenelmis moapa</i>
Grated tyronia	<i>Tryonia clathrata</i>